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Educational News and Editorial Comment

A LARGE APPROPRIATION TO EDUCATION

In the *Journal of the National Education Association* for February, 1922, in the course of a statement regarding the Towner-Sterling Bill, appears the following announcement:

A lay organization of national scope has appropriated \$125,000 to be used in publicity for the measure during the present year, and an annual appropriation of the same amount will be made until the provisions of the bill have been enacted into law.

A like announcement was made at the meeting of the Department of Superintendence by the chairman of the legislative commission.

The writer of the present editorial, like many another member of the National Education Association, was duly impressed by the optimistic tone of this announcement and was at the same time curious for more information. He, therefore, wrote to the authorities back of this generous sum of money and asked a number of questions, stating that he wanted the information "for editorial use." The replies which came to his inquiries may be quoted in so far as they touch the various items in the announcement.

First, as to the assertion that the appropriation is made by "a lay organization of national scope," it was found that the appropria-

tion was, in fact, made by the Southern Jurisdiction of the Ancient and Accepted Scottish Rite of Freemasonry of the United States. Mr. Perry W. Weidner, the secretary general of the Supreme Council of the Southern Jurisdiction, writes as follows:

This Jurisdiction comprises all those states (thirty-three in number) that lie south of the Ohio River and west of the Mississippi, and within those states it is now functioning vigorously. From many quarters come most encouraging reports concerning the attitude of the people toward this most important measure. Those states lying north of the Ohio River and east of the Mississippi (fifteen in number) are in the Northern Jurisdiction, of which Leon M. Abbott, 933 Tremont Building, Boston, is grand commander (presiding officer), and R. A. Shirrefs, 299 Broadway, New York City, is secretary general. I am not informed as to just what they are doing, except that they have not yet entered into this program as actively as has this Jurisdiction.

Mr. Weidner was good enough to send copies of the resolutions making the appropriations for the past two years. The general text of the resolutions sets forth the interest of the Southern Jurisdiction in various educational projects and includes specific clauses on appropriations.

The clause covering last year's appropriation is as follows:

Resolved, That there is hereby appropriated for the use of each inspector general and deputy of the Supreme Council, in the states within the Jurisdiction (thirty-three in number) in carrying into effect the purposes of these resolutions in his respective jurisdiction, commencing July 1, 1920, the sum of one hundred dollars per month, or so much thereof as he may deem necessary, to be advanced to him from time to time by the secretary-general. That each sovereign grand inspector general or deputy aforesaid shall on or before the first day of September, 1921, make a detailed report to the grand commander of all work done by him up to July 1, 1921, and an itemized statement of his expenditures, with such recommendations as he may deem proper to advise the Supreme Council of the practicability and advisability as to the future of such work as herein above outlined.

The clause covering this year's appropriation is as follows:

We recommend that the work of educational and fraternal assistance, the latter of which is now carried on under the term "altruistic," be united and that the appropriations for such work for the future biennial period be made upon the basis of a minimum allowance of two hundred dollars per month to each jurisdiction (thirty-three in number), or, if that is not sufficient, that it be increased in a jurisdiction fully organized to an amount equal to fifty

cents per capita of the membership of the jurisdiction; that half of this appropriation be devoted to the educational program and the other half to altruistic work or fraternal assistance, unless, in the opinion of the inspector general, it is more desirable to use more than one-half for the educational work. A like appropriation per capita shall be made for the District of Columbia and the Insular and Territorial Jurisdictions, to be expended under the direction of the sovereign grand commander.

We recommend that any inspector general having in his hands funds appropriated for the last biennial period for the educational work be permitted to retain such funds and apply them as rapidly as possible to the organization of his jurisdiction; that the per capita appropriation made for the past two years for fraternal assistance be paid over to those inspectors general who have not yet received the amounts due their respective jurisdictions. And that hereafter the inspectors keep accurate accounts of the expenditures of such moneys as trust funds, using them only for the purposes herein specified, and make such reports of their expenditures as will enable the Supreme Council to see that they are devoted to the purposes for which they are appropriated.

Since the interpretation of these resolutions involved some difficulties, correspondence with Mr. Weidner was continued. The following letters will give the facts better than they can be summarized.

Letter from the editor of the *School Review* to Mr. Weidner:

Thank you very much for your letter of March 23, with its inclosures. I have read these very carefully and am greatly obliged to you for the information which they contain. I am unable to verify, however, the report which led me to make my first inquiry. May I, therefore, ask for further answers to two questions?

First, has your Council appropriated \$125,000 for the purpose of promoting the Towner-Sterling Bill? I judge from the resolutions, of which you were good enough to send me copies, that such money as was appropriated covers a number of purposes other than the direct promotion of this bill.

Second, may I have information as to the methods which are to be employed in promoting the bill or otherwise contributing to the improvement of education?

The participation in education of so influential a body as yours is, of course, very interesting and important to professional educators.

Reply from Secretary Weidner:

In reply to your communication of March 27 I have to inform you that from May, 1919, up to and including September, 1921, this Supreme Council appropriated about \$50,000 for the promotion of its educational program.

At the session of this Supreme Council in October, 1921, it increased its appropriation so that during the succeeding two-year period it will employ about \$150,000 for the same purpose.

Our plan is this: first, to employ every honorable method to encourage the people of the United States—that is, those within such states as lie within our Jurisdiction, being those south of the Ohio River and west of the Mississippi River—to become actively interested in the affairs of education and devoted to the American public school system as against any other; second, to encourage a lively interest in and support of the Towner-Sterling Bill, now before the Congress of the United States; and, next, in addition to all of the above, to begin to indicate the need of a great national university. In the District of Columbia there are two great Catholic universities and one struggling non-sectarian university, the George Washington, but our nation, for itself, has not expressed itself on the subject of education.

I need not recall to you that we stand ninth in the list of nations in the matter of education and that we are about the only one of the important nations that does not have a department of education sitting in and on equal rating with other important divisions of government and welfare.

The United States is now conducting the finest kind of research work in chemistry, agriculture, and other branches. These wonderful laboratories, museums, libraries, etc., would offer the finest sort of opportunity for students and, thereby, become the nucleus of a wonderful institution. So we are trying to keep this idea before the people.

Within each of the thirty-three states noted we have asked our membership to organize, and in every one of them there is now an organization carrying on this work. While the initiative step was taken, and perhaps most of the work done, by members of the fraternity, yet in every case they have allied with them prominent men and women who are not identified with the fraternity and thus have broadened the efforts of such a movement. The Masonic fraternity has always been a strong supporter of the public school system and even has gone so far as to go on record to pledge itself in support of compulsory education, believing that every boy and girl in this country should have a free public school education up to and including the eighth grade at least.

Some people say that compulsory education is unconstitutional. I can only give my own answer to that: if it is, then there is no reason why the state should not have the right to supervise the course of instruction in every private, sectarian, and parochial school, to be certain that nothing is taught that is inimical to making good citizens and loyal supporters of the Constitution of the United States. In some sections an objection is offered because of the racial and social problem. This may be true in the states of the Pacific slope because of the oriental children, and in the South because of the colored children. However, I take it that means and methods can be devised to overcome that feature.

There cannot be a dual allegiance in this country if our system of government is to exist. The public school stands as a prevention.

The only comment which seems appropriate is one that relates, not to the letters or resolutions quoted, but to the announcement printed in the *Journal of the National Education Association*. A careful study of Mr. Weidner's communications leaves one in doubt as to why the statement was made that the money was appropriated by an "organization of national scope"; why the amount \$125,000 was mentioned; why nothing was said about the other purposes for which such money as was appropriated is to be spent; why it was assumed that a like appropriation is to be made annually "until the provisions of the bill have been enacted into law." These queries, together with the general question as to why the announcement was so vague, are perhaps appropriate matters for members of the National Education Association to discuss with their representatives.

ATTENDANCE ON AMERICAN HIGH SCHOOLS

In the issues of *School and Society* for March 18 and 25, Mr. Lee Byrne, of the public schools of Dallas, Texas, has published, under the title "How Much Education Have the American People?" two articles which contain statistics of unusual importance to those interested in the American high school. In his tables Mr. Byrne has brought together figures from the reports of the Bureau of Education and the Bureau of the Census. He has also secured figures from foreign countries which he has reduced to comparable form with the statistics for the United States.

The summary table which Mr. Byrne presents at the end of his first article is made up by using, as the base of calculation for each school grade, the population shown by the census for the age which is assumed to be the average age for that grade. Thus, for the first year of the high school, the census showing for fifteen years of age is used. The percentage of attendance calculated on this basis is probably in error to some extent, but when the same base is used for successive periods a comparison is set up which is highly significant, whatever the error in absolute fact. Furthermore, the reliability of the calculation for any given year is checked

against other results published by the Bureau of Education and is shown to be high.

The summary table is as follows:

RATIOS OF ENROLMENT TO AGE POPULATION

	United States				Median City, 1918	Maximum City, 1818
	1870	1890	1904	1918		
Grade:						
VI.....	68.6	77.9	79.8	92.1	71.4	92.1
VII.....	60.2	68.4	70.8	78.8	64.2	86.0
VIII.....	44.5	50.5	53.6	72.0	46.9	82.2
High school:						
I.....	5.0	11.5	21.3	35.9	36.1	72.5
II.....	2.9	6.8	13.0	24.2	34.9	42.7
III.....	1.8	4.2	8.3	16.9	19.2	32.4
IV.....	1.0	2.4	5.2	13.7	14.4	24.5
College.....		1.1	1.1	3.5		

Mr. Byrne's paragraph following this table is quoted:

It would seem that we should recognize a marked social advance in our country since fifty years ago, when we note that 5 per cent of the people then secured "some" high-school education and now 35 per cent; 3 per cent then went "half way" through high school and now 24 per cent; 1 per cent then had four years of high-school work and now 14 per cent. A larger proportion get college education now than got high-school education in 1870.

No less striking are the comparisons set up with foreign countries. The highest percentage of school attendance in any foreign country for the period corresponding to our high school is 9.1 in Scotland. This is to be compared with the United States percentage for 1914, which was 16.2. The next highest foreign percentages are: Denmark, 5.4; Norway, 4.5; Ireland, 4.3; England and Wales, 3.9; the Netherlands, 2.6; Belgium, 2.5; and France, 2.4. In this list Germany shows 1.7 per cent.

Commenting on his findings, Mr. Byrne writes:

But, when all is said and every possible allowance made, the contrast with the United States is startling. However efficient the German secondary schools may have been in what they did, they could not have been enrolling more than a fourth as large a proportion of the people at the time of their latest report as was the United States. Germany was admittedly autocratic and did not desire advanced education for the masses. But France, with its

republican form of government, has never had democratic education either. England in 1915 was about where we were in 1890 as regards secondary-school enrolments.

No one can read such statements without realizing the magnitude of the experiment which the United States has launched in its public-school system. The figures take on more impressiveness when it is remembered that the great host of young people who are enjoying these opportunities in this country are getting their higher schooling free of cost. Indeed, one reason for the small attendance abroad is that all higher education is there on a tuition basis of support.

It is perhaps repetitious to supplement such comments with a renewal of the demand that our schools find some way of training young people to understand the meaning of their American opportunity; but it is altogether certain that we shall shortly have to take account of the fact that we are doing in our high schools something which is of the greatest social and economic significance and are doing it without understanding for the most part what the experiment in universal free higher education means.

SCHOOLS OF THE NON-EIGHT-FOUR TYPE

At the annual meeting of the North Central Association of Colleges and Secondary Schools, in March, an informal conference was held by members of the various commissions to discuss standards for the junior high school. The discussion was introduced by a reading of the recommendations made in 1921 by a committee of the Commission on Secondary Schools.

The conference did not succeed in reaching agreements. The first resolution which was proposed was to the effect that the period of secondary education covers the years from twelve to eighteen of the child's life. When this failed of adoption, a resolution was proposed asking the colleges of the Association to redefine their entrance requirements so as to include the work of the seventh and eighth grades. This resolution was voted down, largely because friends of the junior high school took the position that college interest in the work of the seventh and eighth grades would tend to formalize teaching in this division of the school system.

A third resolution was proposed which, if adopted, would have recommended the limitation of all requirements for college admission to the work of the tenth, eleventh, and twelfth years. This also failed of adoption.

During the discussion of all of the resolutions the problem of economizing the time of students through a better interrelating of schools was constantly brought up, though the conference as a whole seemed unwilling to commit itself on the matter.

Though unable to pass any recommendations, the conference was fully alive to the necessity of some kind of positive action. It took steps to provide for a continuation of the discussion by asking the Commission on Secondary Schools to appoint a committee to work during the year and report at the next meeting of the Association.

CO-OPERATION IN DEVELOPING SOCIAL STUDIES

The National Council for the Social Studies completed its organization in Chicago, February 25. Its purpose is to lay the foundations for training democratic citizens, and its sponsors believe that such training can result only from a carefully developed and adequately supported system of teaching in the elementary and secondary schools. Its plan looks to promoting co-operation among those who are responsible for such training.

An advisory board was set up composed of representatives of (1) the five associations of scholars most nearly related to the purpose of the National Council—historians, economists, political scientists, sociologists, and geographers; (2) the national organizations of educational investigators and administrators—elementary- and high-school principals, teachers of education, normal-school principals, and superintendents; and (3) regional associations of teachers of history and civics.

The first task the National Council is undertaking is the preparation of a list of those experiments or undertakings in the teaching of the social studies which now give promise of being useful. This list will contain such exposition of the character and aims of these experiments as to make it possible for those working along parallel lines to discover each other and to co-operate more fully than would

otherwise be probable. This expository material will have another purpose—that of indicating outstanding differences of opinion and program in order that these differences may be systematically stated for purposes of analysis and discussion.

To aid in the discovery of these experiments, the National Council has in preparation a list of men and women who will be appointed in the various states to represent the National Council in its efforts to collect useful information and then to give currency to it. While this organization seems to represent all of the elements out of which the best development of the social studies must proceed, the most useful work will be done only with the co-operation of teachers and investigators in all parts of the country to the end that lost motion and useless repetition may be eliminated and that mutually strengthening experiments may be pressed forward.

Persons who are interested in the wholesome development of the social studies, whether teachers or others, and if teachers, whether teachers of the social subjects or of some other subject, are urged to communicate at the earliest convenient moment with the secretary of the National Council for the Social Studies, Edgar Dawson, 671 Park Avenue, New York City.

SUGGESTIONS TO AUTHORS

The fine art of composition, though taught in every high school and college, is seldom completely mastered even by those who stand high in the world of education. The editor who has examined many manuscripts welcomes, therefore, concrete suggestions which he can use in giving advice to his contributors. He feels doubly justified in passing on such suggestions when there is at the same time a prospect of their helping the teacher of English to train his or her class in the ways of preparing real manuscripts.

We copy, therefore, from the *Round Robin*, the house organ of the Macmillan Company, the following editorial:

It is perhaps only human nature to be intolerant of a lack of familiarity upon the part of others with your own particular trade or profession. Details with which you would expect laymen to be acquainted seem to you self-evident. We have all seen the look of supreme disdain on the faces of drug-store clerks when we have mispronounced the name of the tooth paste we desired. Simi-

larly in the book business, the initiate sometimes wonders at the difficulty that authors have in connection with some of the simpler phases of bookmaking.

One of our editors has recently been engaged in the thankless task of revising improperly made bibliographies. The sole guiding principle of most authors in this matter is the usage of the diverse authorities from which they quote, so that the ordinary manuscript bibliography looks like a crazy quilt. In the belief that prevention is better than cure, the editor to whom we refer has prepared a simple sheet of directions for prospective authors, which, if carefully followed, will go far toward standardizing practice in one aspect of bookmaking in which—we freely confess it—chaos still reigns.

This reminds us that there are various other questions involved in the preparation of manuscripts which ought to be understood by every new author who is attempting to prepare material for publication. These can perhaps best be summarized by a series of *don'ts*:

1. Don't fail to indicate the subdivisions of your manuscript clearly and consistently. Confusion or inconsistency in the use of center-heads and paragraph headings means, nine times out of ten, confusion of thought. You can't indicate organization where organization doesn't exist. This fact ought to be a continual challenge to authors.

2. Don't shirk the "hack work" required to prepare any book under the sun, whether it be a cook-book or a volume of poetry. Don't send in ideas and expect your publisher to make a book out of them.

3. Don't be diffuse. Cut out every unnecessary word and sentence. It will be a better book if you do.

4. Don't be careless about the little things. Suppose a great musician wrote a symphony without regard to the precise form and position of the notes: the result would be jazz. Words are the notes of literature, and there is no more reason to expect them to be altered by the compositor than there would be to expect jazz intervals to be harmonized by an orchestra. The only one of the fine arts in which you can afford to be sloppy nowadays is painting.

5. Don't submit a manuscript to your publisher without first reviewing every sentence more than once with reference to its structure, and every paragraph with reference to its unity.

6. Don't use capitals or underscoring without realizing that these are directions to the printer. Don't try to indicate styles of type, unless you know how to do so. In the rare cases where manuscripts come to us entirely prepared for the printer, there is, of course, a great saving of work in the editorial office. But don't mark type unless you are sure you know when bold-face, or capitals, or large and small capitals, or italics, are appropriate.

7. Don't send us printed half-tone illustrations and think you are sending us photographic copy that we can use. Photographs of half-tones do not reproduce well. Send us original photographic prints.

8. Don't send us engraved cuts with any feeling of assurance that we can use them. You cannot use a 5" × 5" cut on a 4" × 6" page.

9. If you send us a drawing or photograph to be engraved, don't jump at conclusions regarding the dimensions of the completed cut. These have to be determined in the office.

10. Don't quote long passages from other books without first securing permission to reproduce them, or at least listing all copyright material for your publisher.

11. Don't send a manuscript to a publisher without keeping a carbon copy for yourself. Number the pages consecutively.

SPANISH IN A MEXICAN SUMMER SCHOOL

The Bureau of Education and the Pan-American Union ask that the attention of teachers in the United States be called to summer courses in Spanish to be conducted in the City of Mexico by the National University.

The following paragraphs give the essentials of the announcement:

The National University of Mexico in organizing this summer school desires to offer to foreigners, and especially to North Americans who are teaching Spanish in the United States, an opportunity to strengthen and amplify their knowledge of this language, and to visit the Republic of Mexico and become familiar with a country and the life of a country of Latin traditions.

The courses of the summer school which are offered by the National University of Mexico are given in the City of Mexico and are composed of two sections, one which commences July 12 and ends August 15, the other commencing July 26 and ending September 9. The same subjects will be taught with few differences in the two sections. The program is combined in such a manner that the two sections may be carried on by the same group of students if they wish to do double work in their studies. These courses are given in the building which is occupied by the office of the Rector of the University, and the School of High Studies, on the Street Licenciado Verdad, on the Avenue Guatemala. The offices of the director of the summer school are found in the same building as that of the Department of the University Interchange. The lectures and conversation practice classes will be held from Monday to Friday. Saturday and Sunday will be utilized for visiting the museums and for taking excursions to places of historic or artistic interest.

Certificate of Attendance.—A student who has attended more than 80 per cent of the classes given on a subject will receive a Certificate of Attendance.

Certificate of Credit.—A student who has passed examinations or given other proofs that he has profited by a course under a given professor will receive a Certificate of Credit.

Matriculation fees and other expenses.—Students should enrol in the secretary's office of the summer school in the office of the Rector of the National

University of Mexico; but it would be wise if before coming they advise the secretary of the course they plan to take.

The matriculation fees are as follows:

For a course 5 hours a week.....	10 Mexican pesos
For a course 3 hours a week.....	6 Mexican pesos
For a course 2 hours a week.....	4 Mexican pesos

(Estimated value of Mexican peso, 50 to 60 cents in United States money.)

The expenses of excursions will be paid by the students themselves.

Railroad fare discount.—The government of Mexico furnishes to the students of the summer school a discount of 50 per cent on the railroad fare in Mexican territory, on the national railroads, to wit: from Ciudad Juarez to Mexico City, from Piedras Negras to Mexico City, from Nuevo Laredo to Mexico City, from Manzanillo to Mexico City, from Veracruz to Mexico City (Interoceanico).

Students who desire to take advantage of this discount should write to or consult with the Mexican consuls in the United States, or, if already in Mexico, with the director of the summer school.

Lodging at hotels and lodging houses.—The cost of lodging varies from 6 to 8 pesos a day, Mexican money, in second-class hotels and lodging houses. There are naturally hotels of first class at higher cost. There does not exist in Mexico, except in rare cases, the custom of receiving guests in private homes or families. The secretary of the summer school has a list of hotels and lodging houses, but he does not hold himself responsible in any case for accommodations. It is recommended that the student go direct from the station to the hotel and look up afterwards from the secretary's list a convenient lodging place.

News Items from the School of Education of the University of Chicago

SUMMER COURSES

The English Department will offer a series of very interesting and significant courses. Miss A. Laura McGregor, assistant principal and vocational counselor, Washington Junior High School, Rochester, New York, will give the Teaching of English and the Teaching of Reading in Intermediate and Grammar Grades. Courses for teachers in the junior high school will be given by Associate Professor R. L. Lyman. During the First Term, courses for senior high school teachers of English will be given by Professor Walter Barnes, of the Fairmont State Normal School, West Virginia. Teachers of the first three grades will find appropriate courses in reading and language in the Kindergarten-Primary Department. For superintendents and supervisors, Mr. Lyman will offer a course in the Department of Education, entitled Investigations in Grammar and Composition.

Teachers of history, civics, and other social studies in the upper elementary grades and in the junior and senior high schools will find practical and helpful courses in the teaching of their subjects offered by Associate Professor Tryon and two visiting instructors. Mr. Stalcup, of the Winona State Teachers College, Minnesota, will have charge of the courses in the teaching of history in the upper elementary grades and in the junior high school. Mr. Hill, of the University High School, will give courses both in history and civics for teachers of these subjects on the high-school level. Professor Tryon will give one course in organizing high-school history for teaching purposes and one entitled Investigations of Problems in the Teaching of History and Other Social Studies for superintendents and supervisors.

The Natural Science Department has arranged a program of very interesting courses. The following titles indicate their character and scope: Elementary Science: Plant and Animal Life, Elementary Physical Science, the Organization of Elementary Science (Nature-Study) in the Grade Curriculum, the Teaching of General Science, the Teaching of Physiology and Hygiene, Biology in Secondary Schools, Botany and Zoölogy in Secondary Schools, the Teaching of High-School Chemistry, the Teaching of Physics in High Schools, and Investigations of Problems in the Teaching of Science. Associate Professor Downing will be in residence. He will be assisted by Charles J. Pieper and O. D. Frank.

SUBSIDIES FOR INVESTIGATIONS

During the war the Departments of Education and Political Economy of the University of Chicago co-operated in editing a series of *Lessons in Community and National Life*. These lessons were published by the Bureau of Education and have had a wide circulation in public schools. The task of putting the material contained in these lessons into permanent form for use in the schools has been taken up by the heads of the Departments of Political Economy and Education of the University of Chicago, with the aid of a corps of assistants chosen from the faculties of the University, the University High School, and the University Elementary School. The demand for social-science textbooks for use in schools is widespread and has been the subject of frequent discussion by many of the learned societies, such as the American Historical Association, the American Political Science Association, the National Association of Secondary School Principals, and others. Recently the Educational Research Committee of the Commonwealth Fund made a grant of \$14,000 to promote the work at the University of Chicago. This fund will be used in collecting and trying out in schools materials of instruction suitable for the upper grades of the elementary school and for high-school classes.

Professor Freeman, of the Department of Education, also secured a subvention of \$10,000 from the same source for use in studying the educational value of various kinds of pictures and films.

THE TRAINING AND EXPERIENCE OF THE TEACHERS IN THE HIGH SCHOOLS ACCREDITED BY THE NORTH CENTRAL ASSOCIATION

C. O. DAVIS
University of Michigan

How to secure and retain a body of superior teachers should be the first and foremost concern of any group of educational reformers. Judging from the expressed views of superintendents, principals, and other administrative officers, this is, indeed, their chief concern. Nor does the question interest only the practical school administrators. The educational theorist has for ages sought to suggest the qualities that make an ideal teacher, and more recently has formulated a great variety of scales for judging the elements of strength and weakness of teachers and for rating them in accordance with scientific standards. A notable defect of many of these scales is that they have not been based upon the compilable facts, but have been formulated upon the basis of what groups of administrators or theorists have thought ought to be the facts. In other words, an extensive statistical study of the actual training, experience, and practices of teachers has been lacking. In consequence, the proposed rating scales and the proposed plans for aiding teachers to continue systematically their professional development while in service have been far from satisfactory.

In order to secure positive data from which to make scientific deductions, the Commission on Secondary Schools of the North Central Association of Colleges and Secondary Schools undertook this year to make an exhaustive statistical study of the classroom teachers in the North Central territory. Inasmuch as one year ago a study was made of the duties of high-school principals, these officers were not taken into special account this year. Nevertheless, since a very large majority of the principals and superintendents in the North Central territory conduct classes as well as

perform special administrative duties, these persons were included, but were considered merely in their capacities as teachers.

In order to secure the desired data a questionnaire was prepared and sent to every teacher in the secondary schools accredited by the North Central Association. Moreover, in several of the states, the same questionnaire was sent to all teachers in the smaller high schools—schools not accredited by the Association. The questionnaire called for information grouped under seven main categories, namely,

I. General information (name, address, age, marital state, and general expectation respecting continuance in the teaching profession).

II. Academic training.

III. Professional training.

IV. Teaching experience.

V. Salary.

VI. Graduate study, together with an evaluation of the types of instruction offered in teacher-training institutions.

VII. For teachers of vocational studies, the special vocational training possessed.

Although the questionnaire contained ninety-four specific questions to be answered (and for teachers of vocational subjects nine additional questions), each one of these, except in the case of the six or eight questions calling for general information, was so worded that the answer was necessarily unequivocal and was indicated by a single word, by definite figures, or by a check mark. The writer filled out a copy of the questionnaire in less than eight minutes.

Nevertheless, despite the simplicity of the task, the definiteness of the questions, and the urgent request that every teacher should co-operate wholeheartedly and answer every question, scores of questionnaires were returned incompletely and carelessly filled out. On the other hand, many individuals were overly conscientious and exact in making replies, not infrequently figuring out their hours of training and years of experience to a fraction of a unit.

While, therefore, the returns from the questionnaire cannot be regarded as complete or mathematically precise in every respect, the deficiencies and the misinformation certainly cannot be regarded

as wholly invalidating the study or the general conclusions derived therefrom. Few individuals made replies to every item, nor could they have been expected to do so, but the great majority answered such questions as directly related to their experiences. Thus, for example, one division of the blank called for data respecting normal-school training. Individuals who had not had such training obviously passed over this section without comment. The same is true of those lacking university training, graduate study, teaching experience in rural schools, or several other groups of experiences. The result is that no two questions on the blank were answered by precisely the same number of individuals. In consequence, wherever percentages are given in the compilations, the total number replying to a given item was taken as the base.

Approximately 26,000 questionnaires were filled in and returned by the teachers in the accredited secondary schools of the Association. Except in the cases of three of the smaller states, all of these reports were sent to the secretary of the Commission for compilation. The three small states compiled their own data. For nearly ten weeks the secretary had a staff of about forty graduate students and Seniors in the University of Michigan devoting all of their available spare time to checking and recording the returns. The reports from teachers in non-public schools (private, military, and parochial schools) were separated from the others and are to be analyzed by themselves at a later date. The remaining reports—from teachers in public high schools only—were then grouped under the following classifications:

1. Male academic teachers.
2. Female academic teachers.
3. Male vocational teachers.
4. Female vocational teachers.
5. Administrators (superintendents and principals) who do no teaching.

Inasmuch as a rule of the Association provides that any teacher teaching one or more academic subjects must meet the complete standards set for academic teachers, all persons teaching both academic and vocational subjects were listed as academic teachers.

Classified thus, the number of teachers in each group is as follows:

Male academic teachers.....	5,203
Female academic teachers.....	10,681
Male vocational teachers.....	2,846
Female vocational teachers.....	4,743
Non-teaching administrators.....	890
Total.....	24,363

In making the compilations, the totals for each group were recorded by states. Because of the expense of printing the elaborate tables, only the summaries are given here.¹

Nearly 16,000 teachers belong to the academic group. Of these, 1,944 teach both academic and vocational subjects; that is, 12.2 per cent of the teachers listed as "academic" do not ordinarily consider themselves as such and no doubt, in many instances, have not prepared themselves specifically to teach academic subjects. Of the total number reporting, 32.8 per cent are men, and 67.2 per cent are women. Of the men, 62.5 per cent are married, and 37.5 per cent are unmarried. Among the women only 5.9 per cent are married, while over 94 per cent are single.

The great majority, 68.1 per cent, of teachers in our high schools began teaching when they were between the ages of twenty and twenty-five. However, 25.7 per cent of them began to teach before they had reached the age of twenty, and 6.3 per cent began after they had reached the age of twenty-five.

At the present time, but 45 of a total of 14,806 reporting are under twenty years of age, and only 207 are above sixty years of age. Between these two extremes, the ages are distributed very uniformly, 3,918, or 26.5 per cent, being between the ages of twenty and twenty-five; 4,038, or 27.3 per cent, between the ages of twenty-six and thirty; 4,390, or 29.7 per cent, between the ages of thirty-one and forty; and 2,208, or 14.9 per cent, between the ages of forty-one and sixty. The median age for men is slightly over thirty years and for women about midway between twenty-six and thirty

¹ The tables showing these summaries can be found in Part I of the *Proceedings of the Twenty-seventh Annual Meeting of the North Central Association of Colleges and Secondary Schools*, 1922.

years. About 36 per cent of the men and about 54 per cent of the women state that their homes are in places different from the towns in which they are teaching. These figures indicate that there is not so much employment of "home talent" as some adverse critics have seemed to think.

Most of the men and about three-fourths of the women who are now teaching say they expect to continue permanently in school work, provided the opportunities are made sufficiently attractive. Three hundred and sixty-seven (367) men and 1,041 women state frankly, however, that such is not their expectation.

When the academic training of the teachers is considered, the following interesting facts are disclosed. Of the 15,672 teachers reporting, all but 1,169 received their elementary education in the public schools, and 40 per cent of them received this education in whole or in part in rural schools. The percentage of men teachers coming from the country is 58.9; of women, 29.8. The school, therefore, seems to continue to be the road to promotion for large numbers of ambitious sons and daughters of farmers.

All but about 12 per cent of the teachers have graduated from public high schools. About 8 per cent have come from private secondary schools, 1 per cent from parochial schools, and 3 per cent from other types of schools.

About 51 per cent of the men and 36 per cent of the women have graduated from high schools that enrolled approximately 100 pupils, while only 10 per cent of the men and 18 per cent of the women have come from the larger high schools—the schools that enrol considerably more than 500 pupils. These figures show again that the recruiting territory for large numbers of our public-school teachers is the rural district or the small town. Whether it is the influence of social prejudice that operates in our large cities to deter young people from engaging more largely in teaching, the more lucrative enticement of business, or the unwillingness of many city youths to subject themselves to the severe training demanded of teachers, or whether there is a lack of intellectuality and emotional qualities in city-bred children that would qualify them to become successful teachers, are questions that cannot be answered here.

It may be somewhat surprising, also, to know that 19.9 per cent of the teachers have had less than a four-year course in the high school. This doubtless means that nearly 20 per cent of the teachers pursued secondary-school subjects in rural schools and were given a certain amount of "advanced credit" when they entered the high school or that many of them entered the preparatory department of normal schools or colleges and completed their secondary education there. Just what percentage of teachers have had this experience the data at hand do not reveal.

It is interesting to note, too, that 74.7 per cent of all academic teachers pursued the classical curriculum in high school. This doubtless means that this number pursued Latin for at least two years, as few accredited schools give credit for less than two years of foreign language study. The women who pursued the classical curriculum outnumber the men, the ratio being 4 to 3. Next to the classical curriculum, the scientific curriculum enrolled the largest number of later teachers, the percentage of all being 14.7. Less than 1 per cent of the teachers claim to have finished the commercial curriculum, less than 2 per cent the practical arts curriculum, and less than 4 per cent the "general" curriculum. An additional 4 per cent state that they finished some other curriculum.

If it be granted, as has sometimes been claimed, that the more serious-minded, capable, and hard-working students elect to pursue the classical curriculum—or, at least, the Latin-scientific curriculum—in the high school, then the figures here given seem to indicate that the public-school teachers are recruited from the boys and girls of the high school who possess the best intellects and habits of work.

Of the approximately 16,000 academic teachers replying to the questionnaire, only about 4,000 appear to have studied in a normal school. Of these, 28.7 per cent remained but one year; 39.0 per cent, two years; 13.3 per cent, three years; 13.9 per cent, four years; and 5.1 per cent, more than four years. Sixty-seven and seven-tenths (67.7) per cent of the men and 72.9 per cent of the women remained two years or less. More than 75 per cent of the normal-school attendants were educated in state normal schools, about 11 per cent in city normal schools, and about 10 per cent in

private normal schools. On the other hand, 14,449 academic teachers have had one or more years' training in college or university, 60 per cent having spent four years in such an institution and 20 per cent having spent more than four years. As distributed over the various types of institutions of higher learning the figures are as follows: state, 39.5 per cent; denominational, 28.2 per cent; endowed, 19.5 per cent; municipal, 1.2 per cent; wholly private, 1.8 per cent; partly one, partly another, 9.7 per cent. These figures indicate that the denominational colleges and the endowed undenominational colleges and universities are together training nearly one-half of the academic teachers in the North Central Association territory.

Of 16,292 teachers, 835, or 5.1 per cent, have no college degree whatever. Of the others, about 35 per cent have received the Bachelor's degree from a state university; about 26 per cent, from a denominational college; and about 25 per cent, from an endowed undenominational college or university.

A total of 1,870 persons holding academic classroom positions only in the North Central accredited schools have the Master's degree. Moreover, 26 persons hold the Doctor's degree. These numbers do not include the principals and superintendents who do no teaching but confine themselves solely to administrative duties. There are 285 individuals in this group who hold the Master's degree and about 25 who hold the Doctor's degree. Add to these numbers 5 vocational teachers with the Doctor's degree and 233 vocational teachers with the Master's degree, and there is a total of 56 with the Doctor's degree and 2,388 with the Master's degree. In 1917, when a similar analysis was made, there were about 50 with the Doctor's degree and 1,668 with the Master's degree. When the facts show that 726 more teachers and administrators with advanced degrees are found in our schools today than were found five years ago, there is some cause for the belief that the quality of instruction in our schools is improving.

Of the academic teachers, 93.4 per cent had in college what was styled a major subject; 89.3 per cent had a minor subject; and 65.3 per cent had two minor subjects. In the case of 74.2 per cent the number of semester hours pursued in the major subject was

more than twenty-five, while in the case of an additional 20.9 per cent the major subject was pursued for from fifteen to twenty-five credit hours. The median for the first minor subject was in excess of twenty-five hours, and for the second minor subject in excess of ten hours. Moreover, 66.8 per cent of the teachers pursued what was called a "teacher's course" in either the major or the first minor subject, or both. However, 33.2 per cent of the teachers did not have such a course. Furthermore, 6,832 teachers of a total of 12,443 have had systematic work in the field of specialization since they graduated with the Bachelor's degree. This is 54.9 per cent of the entire group.

All of these figures seem to show that the academic teachers in the North Central schools are prepared in the subject-matter which they are teaching about as fully as can be expected and that a majority of them are continuing their systematic preparation.

Of 15,147 academic teachers, 10.2 per cent received their professional training in normal schools, 67.3 per cent in colleges and universities, 20.9 per cent in both normal schools and colleges and universities, and 1.5 per cent in technical schools.

Of the individuals trained in the normal schools, 46.1 per cent had observation work in high-school teaching, 52.5 per cent had practice teaching in elementary-school subjects, and 53.1 per cent had practice teaching in high-school subjects. From these figures, it seems clear that even of those teachers trained in normal schools fewer than one-half get opportunities for observing superior teaching, and only approximately the same number are given practice teaching in high-school subjects. Where practice teaching was had, the work was well supervised from the viewpoint of the novices themselves, and the amount of time devoted to it ranged well above thirty class periods. This might mean teaching one class a day five days a week for six weeks, full-time work each day for a single week, or some other distribution giving the same total.

It is, however, in connection with the graduates of colleges and universities that rather surprising facts are disclosed. Normal schools from their very beginnings have aimed to give a practical training to prospective teachers. Colleges and universities have

not always done so. Of 14,185 individuals, 89.3 per cent had courses in education as undergraduate students in college or university; of 10,085 of these same students, 20.7 per cent took work in education *after* they had graduated but *before* they began to teach; and of 11,181 students, 53.9 per cent have taken courses in education as either graduate or special students *after* beginning to teach. The typical undergraduate who pursues work in education at all pursues it to the extent of more than fifteen semester hours; the typical graduate student who pursues work in education pursues it for less than a total of eleven semester hours. The actual detailed figures are included in Table I.

TABLE I
PERCENTAGE OF TEACHERS PURSUING COURSES IN EDUCATION

Number of Hours	Undergraduate	Graduate
Less than 11.....	19.0	66.8
11-15.....	27.8	12.9
More than 15.....	53.2	20.2

Among the teachers who are college graduates, 36.4 per cent pursued no course in special methods in their field of specialization. On the other hand, 37.2 per cent of these teachers had courses of this kind aggregating one, two, or three "hours," while an additional 26.4 per cent had special methods courses amounting to more than three "hours."

As far as systematic observation of teaching is concerned, 26.0 per cent of 10,455 college-trained teachers observed elementary-school work, while 48.8 per cent of 11,618 were given opportunities to observe in high-school subjects. At the best, however, only 75 per cent of the prospective teachers coming out of our colleges and universities get any opportunity whatever to make systematic observations of classroom teaching, and the figures seem to indicate that the number is under 50 per cent.

The nature of the observation work carried on may be inferred from the following figures. The largest number of those who had observation work at all observed fewer than ten classroom exercises while in college. These constitute 36.2 per cent of the entire

number. An additional 33.2 per cent observed approximately twenty classroom exercises, while 30.6 per cent observed thirty class exercises. In the case of 31 per cent of the observers the work was distributed over more than three teaching branches, and in the case of 65.7 per cent more than three teachers were observed. More than 73 per cent secured their observation work during their Senior year in college. These figures seem to indicate that wherever colleges and universities provide facilities for observation work, they do so in varying amounts and distribute it over a fairly wide range of subjects and among a number of teachers. The principle of pedagogy which dominates the work would appear therefore to be that what young candidates for teaching positions need most is a superficial acquaintance with the methods of several personalities teaching varied subjects rather than a more thorough knowledge of skills exhibited by a limited number of persons and related to a narrow range of topics.

Eleven thousand and twelve (11,012) college-trained individuals replied to the questions relating to practice teaching. Of these, 54.4 per cent had no practice teaching in college; approximately 10 per cent taught fewer than ten sixty-minute periods; approximately 9 per cent taught about twenty class periods; another 9 per cent had approximately forty periods of practice; 5 per cent, about sixty periods of practice; and 12 per cent, considerably more than sixty practice periods. Thus it appears that of the college graduates who have in recent years entered the profession of teaching in North Central accredited high schools, more than one-half have had neither practice teaching nor observation work of expert teaching. Further queries respecting the nature of the practice teaching which candidates had reveal the following facts: over 55 per cent of those who had practice teaching in college secured it in connection with a university or college training, model or practice high school; 23 per cent secured it in public high schools; 9 per cent in elementary schools; and 11 per cent in "other types" of schools unspecified.

Again, 56 per cent were given practice teaching in their major subject; 12 per cent also had practice teaching in their minor subject; 11 per cent had teaching experience in "varied" high-school

subjects; and 20 per cent, though definitely preparing to teach in the high school, had their practice teaching limited to classes in the elementary school. Approximately 80 per cent of all practice teaching was carried on during the Senior year in college, while in 20 per cent of the cases it was provided in the Junior year. Eighty-five (85) per cent of those making replies declare that the practice teaching was had under the close supervision of expert supervisors, although about 14 per cent say such was not the case. Nine hundred and sixty-one (961) persons, or 15.7 per cent of all those replying, seemed to think so well of practice teaching that they elected to pursue work in it both in normal school and in the university.

One other item of interest relating to the teachers' training pertains to the kind of legal certificates which they possess. Of 14,821 academic teachers, 43.3 per cent hold a university or college "life" certificate, 17.7 per cent hold a university or college "limited" certificate; 11.8 per cent, a normal-school "life" certificate; 1.1 per cent, a normal-school "limited" certificate; and 26.1 per cent secured a certificate by examination or by "special permit." While, of course, it is true that a great diversity of practice exists respecting the requirements for university, college, and normal-school certificates, it is certain that all of these institutions demand considerable work of a distinctly professional sort. Nor is it usually possible to secure certificates by examination alone. Hence, the figures seem to show that all or nearly all of the teachers have had at least a modicum of systematic professional training.

A fourth main division of the questionnaire related to the experience of the teachers. A total of 15,120 academic teachers replied to this set of questions. Of these, 7 per cent had no teaching experience (other than possible practice teaching) previous to the present year; 16.5 per cent have had less than three years' experience; 19 per cent have taught three years but fewer than five; 38 per cent have taught more than five years but fewer than fifteen years; 16 per cent have taught more than fifteen years but fewer than thirty years; and 3 per cent have taught more than thirty years.

Of these teachers, 26.7 per cent have occupied their present positions for less than one year; 35.8 per cent, for less than three

years; 16.5 per cent, for three years but less than five years; 15.4 per cent, for more than five years but less than fifteen years; 5.2 per cent, for from fifteen to thirty years; and less than 0.5 per cent have occupied their present positions for more than thirty years.

All this is to say that nearly one-fourth of the academic teachers in the North Central high schools have had less than three years' teaching experience, and that 62.5 per cent of the entire number have been new to their present positions within the last three years. Furthermore, 55.6 per cent of these teachers have had teaching experience some time in their life in three or more different school systems, and 46.2 per cent of them have been employed in three or more different high schools. Indeed, but 20 per cent have had their teaching experience limited to a single school system, and but 24.5 per cent have confined their secondary-school teaching to a single high school.

Of 11,000 teachers, 38 per cent have taught in rural schools, 37 per cent in elementary-school grades below the seventh, and 36 per cent in the seventh and eighth grades. These percentages suggest that it might be interesting to attempt to determine whether teaching experience below the high school or teaching experience in the secondary school only provides better training for high-school teachers. In other words, is power gained in one field of teaching experience carried over without loss to different fields?

Of 14,198 teachers, 68.8 per cent are teaching in but a single department; 25.7 per cent are teaching in two departments; 4.4 per cent, in three departments; 0.8 per cent, in four departments; and 0.4 per cent are teaching in more than four departments. Certainly, if concentration of effort is good pedagogical doctrine, little criticism can be offered here.

A more important item, however, concerns itself with the question as to whether teachers are teaching the subjects which they specifically prepared themselves to teach. The replies to the questionnaire show that 57.2 per cent of all teachers are teaching entirely the work they prepared themselves to teach; 37.8 per cent, only in part; while 5 per cent are at present teaching subjects for which they in no wise made specific preparation and for which,

therefore, they must be very inadequately fitted. It would be interesting to know just how well prepared for their present positions are these teachers who say they are "in part" teaching the subjects they prepared themselves to teach.

Just what constitutes a suitable "teaching load" is a question that is far from being settled. The Association has said that no teacher shall be expected to teach more than six periods per day or have an aggregate of more than 150 pupils to instruct per day. The present study shows that, for the most part, the schools are observing these standards. Indeed, fewer than 2 per cent of the teachers reporting carry in excess of six periods of class work per day, although nearly 10 per cent of them have in excess of 150 pupils to instruct daily.

No question is ever more vital and interesting than that of salaries. Five years ago the median salary of academic teachers in North Central accredited high schools was something between \$900 and \$1,199.¹ Today the median lies between \$1,501 and \$2,000. In detail, the percentages are as follows: under \$1,000, 0.5 per cent; from \$1,000 to \$1,300, 5.9 per cent; from \$1,301 to \$1,500, 22.9 per cent; from \$1,501 to \$2,000, 39.8 per cent; from \$2,001 to \$2,500, 19 per cent; from \$2,500 to \$3,500, 11.3 per cent; and above \$3,500, 0.7 per cent. In other words, the salaries of more than 81 per cent of the academic teachers are between \$1,300 and \$2,500. Less than 7 per cent have salaries under \$1,300, and only 12 per cent have salaries above \$2,500.

Furthermore, teachers seem to be saving a portion of their salaries for investment or for the proverbial "rainy day." Thirty-seven and two-tenths (37.2) per cent of 13,656 academic teachers state that their salaries permit them to meet living expenses and to save 20 per cent; 32.3 per cent save 10 per cent of their salary; 14.7 per cent are able to save 5 per cent of their salary; while 15.9 per cent say that they are able to save nothing.

The facts respecting the extent and amount of salary increase were secured in still another way. The question was asked, "What actual increases in dollars have you received in salary in the past

¹ *The Accredited Secondary Schools of the North Central Association*, Bureau of Education Bulletin No. 45, p. 64. Washington: Department of the Interior, 1919.

two years?" Seven and two-tenths (7.2) per cent replied, "nothing"; 4.7 per cent, "\$50 or less"; 9.1 per cent, "approximately \$100"; 12.2 per cent, "approximately \$200"; while 66.8 per cent gave the answer, "considerably more than \$200." The evidence seems to show, too, that most, if not all, of those who had received no increases in the past two years are new teachers in the particular system this year. Furthermore, the amounts actually received by that group which reported an increase of "considerably more than \$200" were in many instances in excess of \$500.

Those teachers who were in school work in 1914-15 were asked to indicate by what percentage their present salaries are larger than they were that year. The answers reveal a range extending from 0 to considerably over 100 per cent. About 41 per cent of the teachers state that the increase was 100 per cent or more; 30 per cent report increases amounting to 50 per cent or more; while about 19 per cent say that the increases were from 25 per cent to $33\frac{1}{3}$ per cent.

These figures perhaps yield nothing different from what school people have for months "guessed," but they give this common opinion a fact basis that is desirable. It certainly is gratifying to know for a certainty that at least 70 per cent of the high-school teachers in the North Central territory are receiving salaries large enough to permit them to save 10 to 20 per cent of their salaries. There surely is no just reason for expecting teachers to engage in their profession on a financial basis less sound and less remunerative than that demanded by the typical business man.

In the sixth division of the study an attempt was made to determine the extent to which the teachers are continuing their education as graduate students in colleges and universities, their sincere judgment respecting the value of various types of professional work provided for them, and their views concerning the deficiencies of their own collegiate training and the means by which teachers may continue to grow while in service.

Of 13,378 academic teachers, 5,850, or 43.7 per cent, attended colleges or universities (summer session or other courses) during last summer or last year. No doubt this number includes the new teachers who were regularly in college a year ago and does not rep-

resent graduate students only. Nevertheless, since another item on the questionnaire shows that but 1,074 academic teachers were wholly without teaching experience at the beginning of the current school year, and a second item shows that but 3,764 teachers were occupying their present positions for the first time, it is found that the total number of teachers in service who were attending summer or other university courses last year is between 2,086 and 4,776. That is to say, between 15 and 35 per cent of the active academic teachers were in college courses last year either as summer-school or extension-course students.

An additional 26.5 per cent of the teachers have taken college courses of some kind within the past three years; 13.3 per cent have done so within the past five years; 10 per cent within the past ten years; while only 3.6 per cent have not attended any university courses since graduation. Approximately 2,500 teachers failed to answer the queries of this topic, and it is not improbable that these should also be listed as not having pursued postgraduate courses of any sort. Nevertheless, even if the omission be so interpreted, the figures show that a large percentage of the teachers are availing themselves of opportunities to pursue graduate work in college.

The amount of credit gained by these graduate students ranges from about six hours, or a typical summer term's offering, to considerably over twenty hours. All told, 7,672 academic teachers have gained college credits since the time of their graduation with the Bachelor's degree. Of these, 21.7 per cent have gained only about six hours' credit; 13.1 per cent, about ten hours' credit; 7.7 per cent, about fifteen hours' credit; 6.7 per cent, about twenty hours' credit; and 18.5 per cent have gained considerably more than twenty hours' credit. These figures check fairly well with other figures of the study which show that 1,896 of the total number of academic teachers possess either a Master's or a Doctor's degree.

Very interesting—especially to professors and administrators connected with teachers' training colleges—are the replies which express the judgment of the teachers respecting the value of courses taken in these institutions. Table II shows clearly the consensus of opinion. From this table it is seen that the psychological courses are more generally elected than any other type of course and that

a large majority of teachers consider them of large value. Indeed, only 5.6 per cent of all those voting hold them in little favor.

Next to the psychological courses, both in respect to the number electing the courses and in respect to the rank accorded to them, are the courses in methods (principles of teaching). However, nearly 10 per cent of the teachers seem to think that these courses have yielded little value to them.

Third in point of elections stand the historical courses, but the majority of teachers pursuing them claim they are not of large value. Indeed, fewer than one-third of the teachers give high rank to these courses, and 35.7 per cent declare the work to be of small value.

TABLE II
PERCENTAGE DISTRIBUTION OF TEACHERS' ESTIMATES OF PROFESSIONAL COURSES

TYPE OF COURSE	NUMBER OF TEACHERS	VALUE		
		Large	Medium	Small
Historical	9,786	32.4	31.9	35.7
Principles of teaching (methods)	11,188	60.5	30.3	9.2
Psychological	11,360	65.0	28.5	5.6
Administrative	6,680	43.1	38.8	18.0
Sociological	3,187	46.7	40.3	13.0
Tests and measurements	5,813	27.0	38.8	34.1
Vocational and industrial	4,128	30.7	31.0	38.3
Principles of education (philosophical courses)	9,340	42.5	40.0	17.5

Fourth in order of popularity stand the philosophical courses (principles of education). With a total of 9,380 persons expressing judgments respecting them, 42.5 per cent accord large value to the work; 40 per cent regard the courses as of medium value; while 17.5 per cent accord little value to them.

Administrative courses were pursued by only a few more than half as many students as some of the other types of courses mentioned. This, however, ought not to be surprising, inasmuch as the great majority reporting are academic classroom teachers and probably did not aspire to administrative phases of school work. Nevertheless, when only 43.1 per cent of the limited number of students taking these courses regard the work as of great value, while 18 per cent declare it to have little value, the facts should give rise to inquiry into the explanations thereof.

That courses in tests and measurements and in vocational and industrial education have not been elected as extensively as some other courses is, no doubt, due largely to their newness in the curriculum. Moreover, the fact that the group of teachers under consideration is composed primarily of classroom teachers and not of administrators may account for the showing that less than one-third of them find these courses of large value and that considerably more than one-third vote the work to be of little value.

Finally, the courses dealing with the sociological aspects of education appear to be well regarded, although only a relatively small number of teachers indicate that they have pursued such courses. Even among those who have elected to pursue them, there seems to be no great enthusiasm for the work, although, on the other hand, the ones that find little value in the subject are relatively few in number.

The things which the teachers lacked in their own training and which they now believe would have been of real value to them are almost unlimited in number. Of the ones mentioned, however, practice teaching has the largest number of votes (2,335). Next stands "more work in the field of one's specialization" (1,952). Then follow in order observation (1,486), more study of cultural subjects (1,337), more practical and less theoretical work (888), public speaking (845), study of school administration (740), methods (548), tests and measurements (462), more psychology (360), systematic supervision (220), and study of high-school texts (137). Besides this list, the study disclosed a goodly number of such replies as the following: athletics, art appreciation, child psychology, dramatics, music, demonstration work, library practice, philosophical studies, better instructors and better instruction in the university, more social life, greater personal contact with instructors, inspirational talks, instruction in how to study, "salesmanship and beauty culture," more time for recreation, a broader selection of courses, a study of world problems and current events, study of state school laws, vocational guidance, and vocational work.

To the query, "In what ways may the teachers best improve their efficiency while in service?" another long array of answers was received. At the top of the list in point of the number of

times mentioned is summer school, with 2,559 votes. Then come salaries sufficient to enable teachers to take advantage of broadening opportunities (2,334), private reading (2,320), lightening the teacher's load (1,572), travel (1,491), visiting days for observation of other teachers (1,370), better supervision (1,214), teachers' meetings (822), institutes (578), real homes to live in after the school day is finished (492), better programs at teachers' association meetings (473).

In addition, a great number of other ideas suggestive of ways of improving the work of the school were offered. Among these are the following: better organization of courses, more co-operation between teachers and parents, time for individual conferences with pupils, open discussions in teachers' meetings, less politics in the school, a change of jobs every five years, departmental discussion groups, some incentive for improvement, lower salaries for beginners, higher salaries for beginners, salaries paid for the entire year, bonuses for summer-school study, more intelligent school boards, more efficient superintendents, some way of forgetting the educational bunk taught in college, and, last to be mentioned but by no means least in importance, better ventilation in school buildings.

Of a more direct personal type are the following suggestions: self-study, continue being a student, more personality, contact with big men, more sleep, more exercise, more amusements, a real desire to teach, treatment that human beings ought to receive, freedom from financial worry, business experience, wider acquaintance, more work, i.e., more attention to one's job.

In summary of this part of the study it may be said that the typical academic teacher of the accredited high schools of the North Central Association is an unmarried individual, between twenty-six and forty years of age, who began teaching shortly after reaching twenty years of age, and who expects to continue permanently in the teaching profession. This individual was educated in the public elementary schools, spent four years in a public high school which enrolled about 100 pupils, graduated from the classical curriculum of that school, spent four years either in a state university or in a denominational or endowed university or college where he pursued among other studies one major and two

minor subjects. To both the major subject and the first minor subject he devoted over twenty-five semester hours and to the second minor subject in excess of ten semester hours.

While in college this typical individual also pursued a teachers' course offered in the department of his major or minor interest, carried approximately fifteen semester hours in theoretical and practical courses in education, had about twenty supervised class observations of expert teaching in elementary- or high-school subjects, and observed classes in two or three departments of instruction taught by three or more teachers. No practice teaching, however, was afforded this individual. He has, however, within the last three years pursued postgraduate courses in the university or college, either during the regular year or in summer school.

Furthermore, this typical individual has been teaching in the public schools for over five years, although he has occupied his present position for only about three years. He has already had at least three changes of position and has taught in at least two high schools. He is teaching in but a single department of work, that for which he specifically prepared himself in college. He has five class recitation periods per day, instructs from 100 to 125 pupils per day, and draws public money by virtue of the fact that he holds a university or college teacher's certificate valid for life.

The present salary of this typical individual, if a man, is between \$2,001 and \$2,500, or, if a woman, between \$1,501 and \$2,000. On this salary the individual is able to meet all legitimate expenses and to place in a savings account from 10 to 20 per cent of his salary. During the past two years, his salary has been increased considerably more than \$200; and, if he was teaching in 1914-15, his present salary as compared with what he then received is larger by from 75 per cent to considerably more than 100 per cent.

This typical individual, as he looks back over his work in education in college, has a very high regard for courses in principles or methods of teaching and for educational psychology. He holds a tempered view with respect to work in principles of education, educational sociology, and educational administration. For courses in the history of education, tests and measurements, and vocational and industrial education he has little enthusiasm. On the other

hand, this typical teacher believes that teachers' training schools may very wisely give more attention to practice teaching, observation of superior teaching, and more practical methods courses. He also regrets that he did not secure a broader cultural education, did not delve more deeply in his field of specialization, and did not have more work relating to public speaking and community life.

Furthermore, this typical teacher believes that the quickest and best way to improve while in service is by means of summer schools, private reading, travel, better supervision, teachers' meetings, and particularly the lightening of teachers' loads and salaries sufficiently large to permit teachers to take advantage of opportunities for self-development.

Space will not permit the inclusion here of similar analyses for the vocational teachers and the administrative officers. These will, however, appear in the *Proceedings of the Twenty-seventh Annual Meeting of the North Central Association of Colleges and Secondary Schools*.

CHANGES IN THE QUALITY OF THE PUPILS ENTERING HIGH SCHOOL¹

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The facts reported here were brought together in the course of the consideration of the nature of the pupils now studying algebra in American schools. They concern teachers of English, history, languages, and science as much as teachers of algebra, however, and deserve the attention of all students of secondary education.

The mathematician or college teacher who concerns himself with the teaching of algebra tends to think of the high school and its pupils as it was when he himself attended high school. There is thus a tendency for, say, the textbook which he writes or the selection of subject-matter and methods which he advocates to be adapted to the pupils of twenty-five to thirty years ago. This tendency persists even when he visits high schools frequently and teaches their classes occasionally.

The pupils of today, however, are different from those of twenty-five years ago, not only in their experiences and interests, but also in their inborn abilities. The data available for 1918 may be compared with the figures for 1890, since the interval between a person's study of algebra as a pupil and his opinion about it as an educational expert would probably average approximately twenty-eight years.

The essential available facts are given on page 356, according to bulletins² of the Bureau of Education and the census report³ of 1910. All numbers are to the nearest thousand.

¹ The work reported in this article was made possible by a grant from the Commonwealth Fund.

² "Private High Schools and Academies, 1917-18," *Bureau of Education Bulletin No. 3*, 1920, p. 4. "Statistics of Public High Schools, 1917-18," *Bureau of Education Bulletin No. 19*, 1920, pp. 11 f.

³ *Thirteenth Census of the United States, I* (1910), 306.

Thus, the number of high-school pupils in 1918 was six times that in 1890, while the number of children of high-school age in 1918 was less than one and two-thirds times that in 1890. The number of graduates, which is in some respects a better measure, was eight times as large in 1918 as in 1890.

	1890	1918
Number of students in all secondary schools.	298,000	1,804,000
Number of graduates.	30,000	248,000
Total population.	62,622,000	105,253,000
Population, ages 10-14.	7,034,000	10,400,000*
Population, ages 15-19.	6,558,000	10,400,000*

* Estimated from the total population for 1918, allowing for the general change in the distribution of the population by age groups. In 1900 there were 8,080,000 persons ten to fourteen years of age and 7,556,000 fifteen to nineteen; in 1920 there were 9,107,000 ten to fourteen and 9,064,000 fifteen to nineteen. By 1918 the numbers in these two age groups were probably approximately equal.

Neither of these, however, is just the comparison we wish. We are concerned here primarily with the number of pupils in the first year of high school (minus repeaters, since we do not wish to count a child twice because he takes the work of the grade a second time). This we would preferably compare with the number of children who passed a certain age mark, say fourteen, during the year in question.

On the basis of the primary data we may estimate the number of children who became fourteen years old during 1890 and 1918 as 1,365,000 and 2,080,000, respectively. The numbers who entered high schools and remained for four months or more in the school years 1890-91 and 1918-19 are more difficult to determine. The students in the first year of high school in recent years are about 40 per cent of the total high-school enrolment.¹ Some of these are repeaters and must be subtracted to leave the actual number entering high school that year. On the other hand, the enrolment figures omit some of the students who enter high school, study algebra for a few months, and then leave school. The percentage of repeaters is not known. About 1905 in certain cities one pupil in five failed of promotion in the first year of high school.² The

¹ *Report of the United States Commissioner of Education for 1916*, I, 448.

² G. D. Strayer and E. L. Thorndike, *Educational Administration, Quantitative Studies*, pp. 29 f. New York: Macmillan Co., 1913.

pupils who failed of promotion would, of course, not all repeat the grade, the tendency to leave school being notably strong in those who fail. Considering these and other factors, we may set 90 per cent of 40 per cent of 1,804,000 as an approximate count of the number entering the first year of high school annually. This is almost 650,000; that is, almost one in three of the children reaching their teens in the United States enters high school.

This is a fact worth remembering. Nothing like it has ever occurred before in the world's history. The corresponding figure for 1890 is almost certainly not over one in ten.

Neither the percentage which the number of first-year high-school pupils was of the total high-school enrolment in 1890, nor the proportion of repeaters in the first year at that time is known. Since four-year high schools have been replacing schools with shorter courses, and since also the gain from 1890 to 1918 has been greater for graduates than for total enrolment, it is probable that the percentage put at 40 for 1918 should be put at 43 or more for 1890. Even if it is put as high as 46, and if we use 90 per cent of 46 per cent of 298,000 as our high-school inflow in 1890, we have an enormous change from 1890 to 1918. For every one hundred children who reached fourteen there were about three and one-half times as many beginning high school in 1918 as in 1890!

We lack measures of the inborn capacities of the one in ten or eleven of a generation ago and have only very scanty measures of the capacities of the one in three of today. We have, however, excellent reasons for believing that the one in ten had greater capacities for algebra and for intellectual tasks generally than the one in three of today.

We know that education is selective, that the correlation between native capacity and continuance in school to higher and higher grades is positive. Let us consider the effect of what seems a reasonable degree of this selective force, say that represented by a correlation of .70.¹ If the correlation is .70 and one-tenth

¹ The justification of this estimate would lead into highly technical arguments, unsuitable for presentation here. The actual data available are complicated by various factors; and their interpretation depends upon one's opinion of the relative shares of native capacity and the amount of education in determining the score made in such tests as the Stanford-Binet, the Army Alpha, and the Army Beta. The correlation

of each oncoming age group is selected for entrance to high school and for the study of algebra, we shall have approximately the results shown in the first line of entries of Table I. If, the correlation being .70 as before, the selection is widened to one-third, we shall have approximately the results shown in the second line of entries of the table. In the former case, 95 per cent of the pupils studying algebra will be above average in native intellectual capacity; in the latter case, only 83 per cent. In the former case seven-tenths of the pupils will be in the top fifth of human beings for intellect; in the latter case, only four and one-half

TABLE I
DISTRIBUTION OF INTELLECT IN 1,000 PUPILS OF THE FIRST YEAR OF HIGH SCHOOL
ACCORDING AS ONE IN TEN OR ONE IN THREE ENTERS HIGH SCHOOL

	Lowest Tenth	Second Tenth	Third Tenth	Fourth Tenth	Fifth Tenth	Sixth Tenth	Sev- enth Tenth	Eighth Tenth	Ninth Tenth	Highest Tenth
Selective force: $r = .70$										
One in ten.....	0	2	7	15	28	48	80	130	223	467
One in three.....	4	17	32	47	71	95	124	157	198	255
Selective force: $r = .60$										
One in ten.....	2	9	18	29	46	66	97	137	204	392
One in three.....	12	29	45	61	80	98	121	146	177	230
Selective force: $r = .80$										
One in ten.....	0	0	1	4	11	26	54	111	231	562
One in three.....	1	6	17	35	57	89	126	170	222	277

tenths. If we set a forty-percentile human intellect as the minimum able to profit by the study of algebra, there would be only $2\frac{1}{2}$ per cent of pupils unable to profit in the one case as against ten per cent in the other. If we set the median intellect as the minimum able to profit by the study of algebra, the corresponding percentages would be 5 and 17. For readers who would estimate the selective force as greater or less than that denoted by $r = .70$, the results of similar calculations are included in Table I.

between Alpha score and grade reached, as reported by the recruit, may be taken as .75; that for the Non-verbal Beta Test, .65; and that for the Stanford-Binet, .65 ("Psychological Examining in the United States Army," *Memoirs of the National Academy of Sciences*, XV, 779, 783, 805. Washington: Government Printing Office, 1920).

It may be well to note here that the different selection of pupils in the European high schools must be considered in connection with any plans to adopt in whole or in part their subject-matter or methods in the teaching of mathematics. Their selection was very much narrower, and unless they were foolish in their control of it, as by rigidity of systems of caste, wealth, and the like, they should have obtained a much higher fraction of their youth in respect to intellect than we obtain of our youth.

Just how much narrower it was, it is not important for our purpose to measure, but one case¹ may be presented. In Prussia, in 1910, the numbers of pupils in the different grades of *Gymnasien*, *Progymnasien*, *Realgymnasien*, *Oberrealschulen*, and *Realschulen* altogether were as follows: upper first, 8,788; lower first, 10,993; upper second, 14,369; lower second, 25,060; upper third, 27,966; lower third, 32,172; fourth, 35,044; fifth, 35,230; sixth, 37,071.

According to the *Stateman's Year Book*, the total population of Prussia in 1910 was 40,165,219. Estimating the number reaching a stage corresponding to our first year of high school as 30,000 and the number reaching fourteen years of age as 800,000, we have about one child in twenty-seven being selected for continuance to that educational level. The selection in 1913 was only a little wider, and in 1905 it was not very much narrower, no such increase of secondary education having been in progress there as in the United States.

¹ Data from *Ergänzungsheft 27* of the *Centralblatt für die gesamte Unterrichtsverwaltung in Preussen*, 1910.

WHAT AN IOWA LAYMAN SHOULD KNOW ABOUT COURTS AND LAW

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Our schools assume to prepare the individual for citizenship by informing him concerning the relationships which are established by citizenship. There is, however, a general feeling of disappointment in the case of the civics courses commonly offered in the high school because they do not give the student information in regard to those legal aspects of citizenship which may affect him directly as an adult citizen. In view of the criticism to which these courses have been subjected, the investigation here reported was undertaken to determine what an ordinary layman of an Iowa community should know about the courts and law. As a basis of judgment concerning the legal facts with which the citizen should be familiar, it was decided to examine the causes which bring the layman in contact with the courts and law and, by an analysis of such causes, to determine what knowledge of courts and law is of value to him. Accordingly, a study was made of the various causes of litigation as found on the appearance docket and in the original petitions filed in the office of the clerk of the District Court of Johnson County, Iowa, for the years 1907, 1908, and 1909. It was the original plan to make an enumeration of the more recent records, but as the investigation proceeded it was found that these records were so much in demand by attorneys, real estate men, etc., that the years 1907, 1908, and 1909 were chosen instead.

In compiling the data, the classification as given on the appearance docket was not taken as final, but the entire petition was read for the purpose of ascertaining the original or underlying cause which brought the individual into court. For example, case No. 15416 is a case in which the plaintiff loaned the defendant a certain sum of money and took from him his promissory note. The defend-

ant failed to pay, and the plaintiff brought action, praying judgment, and asking the court for a writ of attachment. This was listed as a promissory note case involving the violation of a written contract, for it was the defendant's failure to pay this note which was the original cause for his being brought into court.

Table I shows the causes of action in 758 cases which were brought into the District Court within a period of three years.

TABLE I
THE NUMBER OF CASES OF EACH TYPE EXAMINED

1. Written contracts.....	199
2. Quieting titles.....	190
3. Divorce cases.....	79
4. Damage cases.....	65
5. Implied contracts.....	50
6. Oral contracts.....	46
7. Suing for an undivided interest in an estate.....	34
8. Injunction.....	30
9. Writs not otherwise mentioned.....	11
10. Garnishments.....	10
11. Cases asking for writs of replevin.....	8
12. Attempt to break or set aside wills.....	8
13. Slander.....	7
14. Writs of attachment.....	3
15. Appeal from boards of review or council on assessment.....	3
16. Habeas corpus.....	3
17. Naturalization.....	2
18. Partnership cases.....	2
19. Bastardy.....	1
20. Tax case.....	1
21. Appeal bond.....	1
22. Alimony.....	1
23. Contempt of court.....	1
24. Deeds.....	1
25. Assault and battery.....	1
26. To incorporate a town.....	1
Total.....	758

After all of the petitions had been read and classified, the last one hundred cases were reclassified to determine more definitely the causes that brought the layman into court and what remedies he sought.

TABLE II

CLASSIFICATION OF ONE HUNDRED CASES ON THE BASIS OF THE GENERAL PRINCIPLE OF LAW INVOLVED

I. INSTRUMENTS INVOLVING THE PRINCIPLES OF CONTRACTS

1. Promissory notes.....	103
2. Implied contracts.....	40
3. Written contracts.....	35
4. Oral contracts.....	20
5. Mortgages.....	16
6. Leases.....	15
7. Wills.....	12
8. Land contracts.....	10
9. Contracts by letters.....	10
10. Assigned written contracts.....	8
11. Power to collect attorney's fees.....	5
12. Partnership.....	5
13. Bonds.....	5
14. Common carrier.....	5
15. Quitclaim deeds.....	5
Total.....	294

II. INSTRUMENTS INVOLVING WRITS OR DECREES FROM THE COURT

1. Quieting titles.....	85
2. Writ of attachment.....	73
3. Decree of divorce.....	25
4. Writ of injunction.....	23
5. Estates.....	10
6. Referee.....	9
7. Vendor's lien.....	7
8. Writ of replevin.....	5
9. Naturalization.....	5
10. Writ to incorporate a town.....	5
11. Writ of mandamus.....	5
12. Writ of detinue.....	5
13. Landlord's lien.....	4
14. Guardianship.....	1
Total.....	262

III. DAMAGE CASES INVOLVING THE PRINCIPLES OF TORTS

1. Slander.....	5
2. Assault and battery.....	5
3. Trespass.....	5
4. Railroad damage case.....	5
5. Employer's liability act.....	5
6. Interstate commerce.....	3
Total.....	28
Grand total.....	584

In order to do this, a weighting system was arbitrarily decided upon, in which the most important cause was given a weight of five and others such as those involving court writs were weighted from four to one in the order of their importance. The result of this second tabulation is shown in Table II. Out of 584 points, the promissory notes received the greatest number, 103; quieting titles was second with 85 points; and writs of attachment came third with 73. Reclassifying these under contracts, court writs, and damage cases, it is found that 50.3 per cent of all cases for these three years had to do with contracts; 44.8 per cent with court writs, and 4.8 per cent with damage claims.

In order to check the weighted method the one hundred cases listed in Table II were classified again without being weighted. There was a difference between the results obtained by the two methods of 1.7 per cent in contracts, 6.6 per cent in court writs, and 5.3 per cent in damage cases.

Of the 535 petitions examined, 22, or 4.1 per cent, were brought up from the Justice Court; 35, or 6.5 per cent, were appealed to the state Supreme Court; and 3, or less than 1 per cent, to the United States District Court.

Another question with which the layman is confronted when he comes into court is the cost if his case is brought to trial. The court records for these three years show an average cost (attorney's fees omitted) of \$29.34 for cases settled in court and an average cost of \$12.83 for those settled out of court but after notice had been served.

CONCLUSIONS

1. *The courts.*—No conclusions can be drawn in regard to the importance of the Justice Court, since it is impossible to ascertain how many cases were tried in this court without being appealed to the District Court.

As the state Supreme Court is not a court of original jurisdiction, it follows that, before any layman in Johnson County can be brought into contact with this court, he must lay his cause before the District Court. Since only 35 out of 758 cases were appealed, the average citizen of Johnson County has twenty-one chances of

being brought into contact with the District Court to but one chance of being brought into contact with the state Supreme Court.

2. *The law.*—The kind and the amount of law that the layman needs to know are entirely different from the kind and amount needed by the practicing attorney. The attorney from the standpoint of his profession should be familiar with that type of law which will assist him in advising his client or in winning a case before the bar, but the layman needs to know only the general principles of law, the ignorance of which will cause him loss of time and money or bring him into the courts. Table I shows that the outstanding cause which brought the layman into court was the violation of written contracts, and Table II, in which the weighted system was used, also places written contracts first in the form of promissory notes. If in Table I all those with a score of ten or above are considered important, the subjects about which the layman should understand the general principles of law are: written contracts, quieting of titles, divorce, damage cases, implied contracts, oral contracts, settling estates, and court writs.

In checking this type of law against the material found in twenty textbooks in civics, we find little similarity. Instead of presenting some fundamental principles that will help the layman more clearly to understand contracts, attachments, etc., the textbooks consider such topics as how laws are made, federal laws, state laws, international laws, constitutional laws, etc. It is not the purpose of this study to determine the relative value of the legal facts set forth in this study and those usually found in civics textbooks, but to show that the needs of the average layman are concerned rather with that type of law with which he comes in contact in his everyday life.

THE HISTORY AND SOCIAL-SCIENCE CURRICULUM OF THE JOLIET TOWNSHIP HIGH SCHOOL

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In discussing the history and social-science curriculum of the Joliet Township High School, an attempt will be made to give briefly the reasons that led to changing the courses, the aims that were established, and the curriculum as it is at present. Wherever history department is mentioned, history, social and political science, and economics are meant.

Prior to 1914, the history curriculum consisted of one year of ancient history given generally in the Freshman year, followed by medieval and modern history, and that followed in turn by English history, closing with American history in the Senior year. One-semester courses were offered to Juniors and Seniors in industrial history, economics, civics, and commercial law. One year of history was required for graduation. The history department urged all students to take the required work during their Freshman year. The theory was that a student would become so interested in the study that he would elect the other courses. In practice, 90 per cent of our students took their one year of history, Greek and Roman, as given in the Freshman year.

There had been a feeling of unrest among the members of the history faculty for several years. Finally, in 1913, they decided to try to remedy some of the more glaring evils. It needed but a few meetings to convince the history people that they faced a question, not of a minor change or two, but of entire reorganization. It was decided that the first thing in the reorganization work was to draft the aims of the department. The first aim, it was agreed, was "to teach a liking for the subjects." It was found that the students had taken a course called "history" in the grades, which consisted of a general collection of dates, and that they came into the high school hating the very word "history." The majority

of them took ancient history in the first year in the high school and, seeing no connection between this and their everyday life, declined to elect the later courses. The second aim was "to give a skeleton knowledge of the subject." As the majority of students in the high school do not go to college, the aim of the high-school class should be to give a general survey rather than to turn out a student highly specialized in one small portion of the whole. The third aim, and this was considered the most important, was "to impart the knowledge of where to find information on any subject."

After the three aims had been determined, the question of content of courses was attacked. Imagining a child just entering the high school, the department undertook to make out a four-year course that would give the student everything he should have. It was agreed that the student needed four years of English, needed four years of mathematics, needed four years of science, should have four years of history, should take two to four years of foreign language, should have two to four years of commercial subjects, should have the same amount of time for either manual training or home economics; besides courses in music, art, physical training, band, and orchestra. Thus, it was found that the pupil under consideration could get an excellent high-school education in nine and one-half years. The imaginary child did more than any other one thing to bring the history faculty to realize that they would have to reduce the history curriculum. When that idea had been firmly established, the work of dropping certain subjects from the curriculum and reorganizing others was begun. It was thought that industrial history, commercial law, and English history had no place in the high school. They are excellent subjects, but the valuable material they contain can be given in other courses. Investigation showed that 150 students were taking civics in their Junior or Senior year. As the Sophomore class numbers annually about 500, this meant that approximately 350 students a year were leaving the institution without a course in civics. That led the history group to urge that civics should be required of all students in the Sophomore year. A plan for administering the course was readily worked out. Physical training was required of all students in the high school two days a week. The

Freshmen had four required subjects that recited daily, with physical training on Monday and Wednesday. The Sophomores likewise had four required subjects, with physical training on Tuesday and Thursday. On the days when the students did not have their gymnasium work, they reported to study halls. It was suggested that the one-semester civics course of the Senior year be given to the Sophomores instead, on Monday, Wednesday, and Friday for the entire year. In this way no other department need be disturbed. Immediately there arose the problem of arranging a teacher's program so that he should teach civics classes three days a week and have no classes two days a week. Since the Freshmen took their gymnasium work on Monday and Wednesday, they could take a social science course on Tuesday and Thursday and go to the study hall on Friday. From an administrative point of view the problem was simple. The teacher would teach civics to Sophomores Monday, Wednesday, and Friday, and other social science work to Freshmen on Tuesday and Thursday.

After having arranged the work for the first two years, the history department felt that it could justly demand that history be required as one of the four academic subjects in the Junior and Senior years. At this point a very interesting experiment was conducted. It was thought that it might prove of benefit in shaping the courses if an examination could be given to students who had had three or four years of history and had been out of school for a number of years. Finally, twenty people, very good friends of the school, were asked to help. Upon reaching the institution, they were told that the school wanted to conduct an experiment and wanted their co-operation. They were given pencil and paper and informed that under no conditions were they to write their names or put any mark of identification upon the papers. Then some very simple questions were asked, such as write all that you can remember on Assyria, Chaldea, Persia, Greece, Egypt, Rome, etc. After finishing that examination they were asked if they would be able to come back the following week and take another test, with the promise on their part that they would not look up any historical topics or talk with anyone about any historical matter until after the next examination. It was carefully explained to them that the

value of this experiment lay in their answering the questions without any special preparation. At the next meeting they were asked definite questions about the nations of antiquity.

For several years we had been giving a course in general history to Sophomore commercial students. We then took the commercial students, now Seniors, who had taken their general history two years before and gave them the same questions that we had given to the townspeople. The showing made by the commercial students compared so favorably with the showing made by the townspeople that it convinced the waverers in the history faculty of the value of the course in general history. It was therefore decided that a one-year course of general history or (as we preferred to call it) world-survey of history would be required in the Junior year. American history was required in the first semester of the Senior year, and either economics or sociology in the second semester. It was felt that when a student had his Freshman social-science course, his Sophomore civics course, and his one year of world-survey of history, only one semester should be given to the political phases of American history, especially as the student was required to take either economics or sociology.

The Freshman social-science course which is given each Tuesday and Thursday is a course in vocational guidance, which we call "occupations." As the gymnasium classes are segregated, we continue the same policy in the Freshman occupations classes and the Sophomore civics classes. The book for the boys is Gowan and Wheatley's *Occupations*;¹ for the girls, Hoerle and Saltzberg's *The Girl and Her Job*.² It is generally observed that the students entering the high school have very little conception of the various vocations or professions. An actual case will illustrate that point. A boy was brought into the principal's office by one of the teachers with the suggestion that his course be changed. The boy's name was Aramonda Gilda Balda. He was taking an engineering course which requires four years of mathematics. The records showed that the boy in the grades had failed continually in arithmetic and that he had not been able to grasp mathematics in the high school. He had been urged to change to a manual-training course, but had

¹ Boston: Ginn & Co., 1916.

² New York: Henry Holt & Co., 1919.

steadfastly refused on the ground that his father would not let him. Finally, Aramonda was asked to bring his father to school. When the father came, he insisted that the boy stay in the engineering course, and it finally developed that the father wanted his son to be a fireman on a railroad engine.

During the year business men and women are brought to talk to the occupations classes. For example, the superintendent of one of the hospitals gave the girls a talk on nursing. One of the bankers talked to the boys about his profession.

In the second semester a student must choose a profession that he thinks he would like to follow. The school furnishes plain, heavy manila paper covers and white paper; the student writes a book in which he tells of his chosen profession. He makes a title-page; he dedicates the book to whomever he pleases; he writes a preface; then he describes the profession. There are chapters on the qualifications necessary to that profession, the amount of education that he needs, the amount of money to be expended on preparation for the profession, the financial compensation that he may look forward to in future years, the prospects of advancement, the social advantages of the profession, and his own personal disqualifications. In the end he gives a bibliography showing where he got his information. He is also urged to illustrate this book as much as he possibly can, either with handwork or with pictures taken from magazines and newspapers. Throughout the course the student is urged to consider his choice of a profession a tentative one. He is repeatedly told that he will probably change his plans by the time he is a Senior. The students take a very keen interest in the course.

In the Sophomore year the civics course is a combination of community civics and governmental civics. There are a number of excellent textbooks, but the one that is being used is *American Government*¹ by Magruder.

The course in world-survey of history given in the Junior year is looked upon as one of the best courses in the department. The first six weeks are devoted to the field of ancient history, Wolfson's *Ancient Civilization*² being the text used. The rest of the year is

¹ Boston: Allyn & Bacon, 1917.

² New York: American Book Co., 1916.

devoted to medieval and modern history with Harding's *New Medieval and Modern History*¹ as text.

The textbook used in the one-semester course in American history is Muzzy's *American History*.² There is no one-semester American history on the market, but we have found Muzzy to be very satisfactory. In the last semester of the Senior year the student chooses either economics or sociology. The text used in economics is Thompson's *Elementary Economics*.³ Marshall and Lyon's *Our Economic Organization*⁴ and Burch's *American Economic Life*⁵ are used for reference work almost as much as the text. In sociology the text is *American Social Problems*⁶ by Burch and Patterson.

It may not be out of order to describe a contemplated change or two in the curriculum. It is felt that, instead of permitting a student to choose either economics or sociology, there should be a course giving parts of both. This past semester such a course was roughly outlined; it had an introductory chapter of governmental civics, followed by about ten chapters taken from the three economics textbooks named, and about ten chapters from Burch and Patterson's *American Social Problems*. It is too early to express an opinion on the value of this course. One other change contemplated is that of offering a course either once or twice a week to be called advanced occupations. This would be taken in addition to the four subjects required in the Junior year and would be somewhat similar to the course of the Freshman year. Many students in the last semester of their Senior year begin to wish that they had changed their course and had taken something else or, as it is so often expressed, begin to find themselves. The history department is hoping that this advanced occupations course in the Junior year will enable these students to decide upon desirable changes before it is too late.

¹ New York: American Book Co., 1918.

² Boston: Ginn & Co., 1920 (revised).

³ Chicago: Benj. H. Sanborn Co., 1920.

⁴ New York: Macmillan Co., 1921.

⁵ New York: Macmillan Co., 1921.

⁶ New York: Macmillan Co., 1918.

PROFESSIONAL TEACHERS' MEETINGS FOR THE HIGH SCHOOL

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A principal's most important work is to improve the classroom instruction of his teachers. Any project which will increase the efficiency of the teaching force can best be presented at a teachers' meeting. In an effort to conduct teachers' meetings which should result in the improvement of the teaching staff, the writer had in mind several fundamental ideas about teachers' meetings. A few of these are mentioned.

1. A principal should be a leader in the meeting, but he should not forget that it is a teachers' meeting.

2. Teachers' meetings should be professional, and it is the function of the principal to make them so.

3. Monday afternoon is perhaps the best time for a teachers' meeting—never Friday. They should begin promptly, continue for a definite period, and close on time.

4. It is not well to make it compulsory for teachers to attend. If they are the kind who think they do not need suggestions, give them something to do—some educational problem to work out. As a rule, this will interest them sufficiently to attend the meetings.

5. A teachers' meeting should be a pleasant affair. There should be no scolding, and all criticism should be made impersonally and frankly.

6. A teachers' meeting is not the place to make announcements.

7. As far as possible, the program should be of interest to all teachers.

During the year we had eight strictly professional meetings which were held the first Monday of every month at half-past three. The months of September and June were excepted because of the numerous duties which devolve upon the faculty at the beginning and closing of school.

The following schedule of programs was planned for the year:

October—Marks
November—Class management
December—Study suggestions
January—The assignment
February—The question as a part of the recitation
March—Supervised study
April—Textbooks
May—Extra-curriculum activities

At a preliminary meeting held early in the school year we stated the aims for our future meetings and outlined the work for them. Two teachers were assigned to each topic. A few of the teachers objected on the ground that it meant too much work, that it always had been difficult for them to speak before a group, or that teachers' meetings were never interesting. However, the majority were interested, and some even seemed to be anxious to present their topics. In general, the teachers who were really enthusiastic about their school work and desired to improve were the teachers who took up this work whole-heartedly. Some of the naturally shy ones, on the other hand, were our very best teachers.

About three weeks before each meeting the two teachers who had charge of the session met with the principal and agreed upon a plan for presenting the subject. To prevent repetition in the discussion, the subject was divided into two phases. Each teacher concerned herself with the one assigned to her. To further the efficiency of our meetings we conformed as nearly as it was feasible to the following suggestions: keep the meeting rather formal; solicit pertinent questions; discourage prolonged general discussions. Each speaker was allotted twenty-five minutes for her discussion, and it was deemed more profitable to attend to that prepared discourse than to permit much general discussion.

An outline of the subject prepared by the principal was given to each of the two teachers. These outlines were not necessarily to be followed by the teachers, but it happened that in nearly every case they were followed more or less closely. A day or two previous to the meeting each teacher was given a similar outline and urged to bring it to the meeting. This afforded each teacher an oppor-

tunity to become somewhat familiar with the topic and possibly to prepare questions which she could present for discussion.

The outlines used had been collected from various sources: some were the result of projects taken up by certain classes in Teachers College; others were compiled from educational periodicals and books; some were borrowed from other schools and principals, while certain parts were original. The purpose of these outlines was to give suggestions in order to make it easier to follow the discussions and to cause the teachers to think about the problems with which they dealt.

With one or two exceptions the presentation of the subjects showed careful preparation. Teachers called at the office and libraries for more professional books than ever before. This awakened interest caused the school and library of the town to order more educational books and periodicals. Hitherto there had been no demand for such literature. One teacher made a study of his pupils in regard to the time spent in study, recreation, and idleness, both at home and at school. He brought the results before the teachers to show the advantages that might be derived from proper supervised study. In other ways practical applications were made to conditions in our own school. Occasionally, however, some questions were not satisfactorily answered; some could not be answered at all. Ten minutes were usually allotted to the principal at the close of the meeting. He used this time to comment on certain points of the discussion. This was his only responsibility in the meeting.

"Marks" was the first topic to be discussed. It was desirable to establish as uniform a system of grading as possible before the first six weeks' report was made out. One of the main objections to the marking of our pupils by the teachers was that it lacked uniformity. At this time we were using an old unequal group distribution with two grades, D and P, below the passing grade 70, and three, E, G, and M, above the passing grade. We were preparing to change to a distribution recommended by the Committee of Uniform Standards of Marking the Achievement of High School Pupils appointed by Dr. A. B. Meredith at a high-school conference in New Brunswick, New Jersey, in 1919. This

change came at the beginning of the school year. After the teachers had been informed at the teachers' meeting with regard to the new system, they adjusted themselves to it without any difficulty.

After studying this question a marked improvement was noted in the distribution of grades by the teachers. There was a much greater uniformity in marking, and fewer complaints came from pupils because of dissatisfaction with their grades.

At the second meeting, suggestions on "class management" were presented. There is a greater need for the study of this question among new high-school teachers than among new teachers in the grammar school because a majority of the latter have received such instruction in the normal schools, while many of the former have received no such instruction in their college courses. The teachers adopted many of the suggestions presented at this meeting.

The purpose in presenting "study suggestions" was to prepare the teacher for directing the habits of study of her pupils. Having studied the problem in a teachers' meeting, she was able to give valuable suggestions which would aid students in mastering their lessons. Later on, the home-room teachers were supplied with lists of suggestions for each pupil. In addition, forty-five minutes were given the teachers in which they might call attention to fundamental principles in effective study. The prime result of years spent in school is the knowledge of how to study.

In taking up the subject of "supervised study," we were not looking forward to the immediate adoption of any particular form. This question was studied to impress upon the minds of the teachers the fact that supervised study is simply an elaborate assignment or a co-operative assignment. As has been said, many teachers were taking great care in making their assignments. Thus the pupils were able to grasp the content of their work and to carry it to its conclusion. An algebra teacher, by supervising a twenty minutes' study of the next day's lesson, was able to accomplish not only a greater amount of work but also more intelligent work than ever before.

We have no assurance that the newest textbook is the best. Many of them are very unteachable and ill adapted to the needs

of the school. New teachers through their lack of experience are inclined to seize the latest publication as the necessary equipment for good teaching. We chose to discuss "textbooks" just before the time to make requisitions for books for the next year. A teacher should have a very good reason for ordering a new book, and this reason should be written and sent with the requisition.

Teachers too frequently do not appreciate the value of extra-curriculum activities. They fail to get the proper perspective of the work of the school. Hence they contend that such activities encroach upon school work and divert the pupils' attention from study. Our study of "extra-curriculum activities" suggested the advisability of striving for a commonly approved end. This end was to reveal higher types of activity and make these types both desired and possible.

The outlines of two of our programs are given as representative of the type used.

MARKS

1. What shall we mark? Achievement or ability to do. We often make our marking inexact by including other things in our mark.

2. Shall we also mark other traits; for example, improvement, ability, and effort? It is well to do this, but these qualities should be given separate marks. In some schools, marks are now given for preparation, recitations, and written work, as well as for dependability, self-control, personal neatness, and community spirit.

3. How many steps shall be indicated? Not more than can be consistently distinguished by the great majority of teachers. As many as are needed to serve the purpose of marking. Five are probably sufficient: one each for failure, unsatisfactory work, satisfactory, good, and highly superior.

4. What distribution shall be used and how large is each expected to be? A normal distribution, in which approximately as many receive the highest mark as fail, as many the second as the next lowest, with the bulk in the middle group.

5. What percentage of pupils should fall in each group? Roughly, 2 to 10 per cent in the extreme groups and 40 to 60 per cent in the middle group, leaving about 20 per cent for the two groups next to the extremes, where a five-division system is used.

6. How can teachers best approximate this distribution? By first ranking the pupils in order of merit before marking them. The Missouri plan is to have the teachers decide what percentage should be used. This is mechanical.

7. What symbols should be used? Symbols which are not already closely connected with traditional notions and which do not immediately suggest a single word. It is better to use symbols which you have the privilege to define.

8. What should the symbols indicate? The symbols should indicate qualities of achievement that are carefully and fully defined. Standards in scales should be used when possible. Have an objective statement of the grades: 4 per cent credit for method, 6 per cent for correct answer, etc.

9. What weighting should be given to daily and examination marks? The final marks should indicate what a pupil can do—not what he has been able to do. Possibly two-thirds to daily marks and one-third to examination marks.

10. Are written examinations desirable or undesirable? Chancellor condemns them because: (1) They are not suited to any entire group, since some people are auditory-minded, visual-minded, etc. (2) Some can write much more rapidly than others. (3) In choosing an orator, salesman, or wife, we wouldn't think of giving a written examination. (4) We should use directly our own eyes and ears upon the very persons themselves who are to be graded and promoted. (5) Common experience as well as medical science assures us that the long written examination is a crime against the health of most girls and many boys. However, there is very little value in teaching anything that is not retained.

11. Is the exemption system worth while? If the exemption system prejudices the teachers in favor of high grades, it should be discarded. If, on the other hand, it has no influence upon the grading of the teacher but tends to elevate the standard of pupils' work, its use should be extended.

A study was made in a high school during six years—two years before the system of exemptions was used, two years during its use, and two years after discarding the system. Teachers who had intimate knowledge of the quantity of study done prior to and during this exemption period agreed that there was an appreciable increase. For a period of three years, test records of study-habits were made yearly. These did not indicate any decrease in the amount of study subsequent to the abolition of the system. On the contrary, pupils were devoting more time to study under the new plan than they did while the exemption system was in force.

High-school teachers are naturally desirous of receiving suggestions along the lines of proper classroom management, for certain phases of this, in many instances, are the greatest problems for high-school teachers. The following outline is the one used in the meeting on this topic:

SUGGESTIONS TO TEACHERS ON CLASS MANAGEMENT

A. Physical conditions of the room.

1. Keep everything neat and clean. (Blackboards, desks, table, teacher's desk, floor, etc.)
2. Have seats adjusted to pupils.
3. Watch carefully the ventilating and heating: have plenty of fresh air and keep the temperature at about 68° F.
4. Adjust the shades so as to insure proper lighting.
5. Keep the room as attractive and cheerful as possible through the use of pictures, casts, plants, ferns, etc.

B. Classroom routine.

1. Be absolutely punctual in beginning and closing.
2. Have a seating plan. Do not waste time in calling the roll.
3. Have all materials ready and easily accessible whenever needed; economize time in distributing and collecting.
4. Keep records carefully. Class marks should be recorded as soon as possible but not during the class recitation.
5. Be punctilious in sending in the various reports asked for by the office.

C. Conduct of class—not methods of teaching.

1. Be a guide and leader of the class in its pursuit of a definite aim.
2. Furnish stimuli for co-operation, interest, and activity; a busy class has no time for disorder.
3. Get the pupil's point of view; impress him with the fact that you are his friend. Never hold past record up against him in class.
4. Try to have each pupil feel that as a member of the group he is responsible for good order. Lead him to appreciate the value of self-control.
5. Have a sense of humor; be cheerful; smile and laugh if the occasion justifies.
6. Do not be temperamental; let the class find you always the same.
7. Refrain from sarcasm, ridicule, and nagging.
8. Cultivate a courteous, well-modulated tone of voice and require the same from your pupils.
9. Do not threaten.
10. Do not dodge discipline cases; handle them with vigor and dispatch. Too frequent recourse to the office weakens authority.
11. Do not make a discipline issue out of every trifling delinquency. Remember your school days and be wise in discrimination.
12. Have as few rules as possible. The machinery for maintaining order should not be too much in evidence.

TEACHING STUDENTS TO CHART

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The chart as a means of expression is being used so extensively today that no one can afford to be ignorant of its various forms. In business it is used to tell the story of the rise and fall of sales, of the routing of the product through the factory, and of numerous other phases of commerce and industry. In magazines and books it is used to indicate complex relationships more definitely and accurately than by lengthy descriptions.

A chart may be defined as a graphic presentation of relationships. For example, a chart of the variations in the rate of exchange of the English pound shows the relationship of the value of the pound at one time to that at other periods.

Business firms and writers use various forms of charts frequently because they are thus able to set forth certain relationships much more simply, definitely, concisely, and forcibly than by the unaided use of words. Of course, charts usually require some explanation. This may often be brief, and sometimes a short tabular key suffices. When the idea back of a chart is grasped, one can in almost a single glance obtain an understanding of the relationship presented.

"Because I need to keep myself posted up to the minute is one reason why I am today relying more than ever on graphic representations of conditions in our business and outside," a nationally known business man said recently.

Since charts are being used so widely and form such a valuable means of expression, it is advisable that instruction regarding their interpretation and construction be given students in secondary schools. This was the conclusion reached by Captain L. M. Bittinger, principal of the Onarga Military School, after some discussion of the matter at faculty meetings.

The first of many questions to be answered was, How much time must be devoted to the study of graphical representation in

order that the students may be able to use and interpret charts readily? An investigation revealed the fact that a study of the use, value, interpretation, and construction of the six most important kinds of charts could be covered in five class periods of forty-five minutes each.

The next problem was to determine how the study of charts could best be introduced to the students. It was decided to include the week's study of charts in one of the established courses. The two branches of study which were naturally presented for consideration were mathematics and English. There is, obviously enough, a mathematical element in all charts. Yet the chart exists solely as a means of expression and is almost always an adjunct to written or spoken discourse. The purpose of the chart is to make certain ideas more clear and emphatic. For these reasons it was decided that the science of charting should be introduced in the English classes of this school.

Could this new subject be taught best to Freshmen, Sophomores, Juniors, or Seniors? As the study of charts was to be taught for the first time, there was no reason why it could not be given to each of the four classes. This was done, and it was found that the Freshmen obtained as thorough a grasp of the subject as the more advanced students.

The instruction was begun by pointing out to the students the value and the prevalence of the use of charts. Numerous articles from magazines, especially those devoted to business, were found to reinforce these points. The use of charts in general were then shown, and their adaptability to certain specific situations indicated. Then the study of the interpretation and construction of the six most important types of charts began.

The first type of chart studied is the simplest, the most obvious, and the most familiar—the graph. One of the chief values of this type of chart is that it brings out the element of time more effectively than any of the other kinds of charts. It is used extensively in business to chart the fluctuations of sales, of the various divisions of costs, and of many other phases of commerce. Statistics dealing with such things as immigration records, growth of cities, and coal production are readily assimilated and understood when charted

in this way. The construction of charts of this class may easily be taught by having the students graph their grades in a certain course.

The second type considered was the circular diagram. It consists of a circle, divided into sectors. Each sector represents a certain part of a unit, and the size of the sector depends upon the ratio of the part it represents to the whole. If the numerical percentage is written on the sector, the relation of the parts to each other and to the whole is made evident. An example of a chart of this kind is one showing the percentage of immigrants to America from Ireland, Italy, Germany, and other foreign countries, in which the percentages are noted on sectors of proportionate sizes.

This type of chart is also frequently used where it is desirable to bring out forcefully the ratio of parts to each other and to the whole. It shows mass and proportion better than any of the other charts. For practice in constructing such charts, the students will find ample material in almost any of their school studies. For example, in connection with the study of physiology, the students may chart the percentage of carbohydrates, fats, and other elements in certain foods.

The next general class of charts may be called the relative-size charts. These consist of pictures drawn to scale. A familiar example of this class is a chart showing the size relationships between the navies of nations. This is done by means of pictures drawn in dimensions proportionate to the sizes of the navies. This type of chart emphasizes the quantitative relationship between the items under consideration.

Another simple yet useful chart included in the brief course described is the geographical, or map, chart. This chart is useful in showing density in certain localities or place relationships. Advertising departments of newspapers and magazines use it frequently to indicate distribution. It consists of a map on which relative densities are shown by means of dots or shaded areas. Most students are already familiar with charts of this type, as they have used them in studying geography to show the corn belt, the wheat-producing areas, the distribution of the population of the United States, and the like.

For indicating the progress of competing units, the picture chart was introduced. The students may construct various kinds of picture charts to show the average grades of the classes in school, the standings of baseball teams, or any other relationship in which there is an element of competition.

The picture chart is interesting and always attracts attention. It is valuable in that it presents an emotional as well as a logical appeal. During the Liberty Loan campaigns picture charts were used effectively to indicate the progress of local teams in reaching their quota.

The last type is the diagrammatic chart. This chart is valuable in showing the exact relationships between the co-ordinate and ranking units of an organization or system. It is capable of an infinite number of variations and is readily adaptable to almost any situation.

Charts are really simple, obvious modes of expression and are easily understood. If a few examples of each of the six main types are drawn upon a blackboard and explained, the students will experience but little difficulty in constructing other charts which are similar, and yet original.

By learning to chart, students are helped in three ways: They become able to interpret charts; they become familiar with a new means of expression; and they develop their analytical powers.

FORECASTING FAILURES IN COLLEGE CLASSES

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It is to be hoped that by now the intelligence test as a preliminary and tentative device for classifying individuals of entirely unknown characteristics has come into its own. The rather unrestrained enthusiasm which was displayed by some in the early days of its use has given way to more sober, critical judgment.

The writer has found the use of a certain limited type of intelligence test of considerable value in the administration of undergraduate work in general physics at the University of Chicago. He cannot claim any orthodox background or training in the field of education other than that supplied by a number of years of experience as a teacher of college classes in his own field. This has been coupled with an interest in individuals and their peculiar problems from which he has derived much benefit. In the effort to save, with many hundreds of students, something of that personal contact which is possible with a few score, the methods outlined below have been developed.

Specifically, the problem has been that of co-ordinating six to ten sections of college physics each quarter so that the material covered is essentially the same in all. Special cases requiring individual attention must be discovered as early as possible. There must be uniformity in policy involving credit. Cases of advanced-standing claims and make-up work involving partial repetition of the course must be consistently handled. On the other hand, complete delegation of the teaching responsibility has to be made and complete freedom of action given to the responsible individual. A changing group of teachers, while retaining their individuality as units, must be turning out meanwhile a rather standardized quantity production. The centralization of responsibility and the complete freedom of the individual instructor are regarded as of the greatest importance.

An instructor conducts all of the laboratory exercises, having the services of an assistant if there are more than twelve students in the section; the assistant, however, is not responsible for results; he only helps the instructor, who should be present the entire period. All class work, recitations, problem discussions, and quizzes are conducted by the instructor. There is little "lecturing." Since each section is limited to twenty-four, personal contact of instructor with students is quite possible and will always be attained sooner or later. Sometimes, however, it is not established soon enough, and a poor student drifts along a week or so, sinking deeper every day, until he is unable to overcome his difficulties and it is too late for him to transfer to another course already started. Here lies the need for a preliminary test.

This centralization of responsibility, of course, takes time and effort on the part of the instructor. It appears that one man ought to have not more than one section, so that there will be time for more advanced courses or research. To co-ordinate the work, there ought to be frequent conferences, at least bi-weekly, of instructors of the various sections. In addition, all sections meet together one day a week for a demonstration lecture which is supplementary to the daily work of the sections. Of course, it deals with topics germane to the laboratory work. Its function has been described fully elsewhere.¹

On entering any section of these courses, the student is required to fill in an information card, the form of which is given on page 384. It will be noted that in addition to the information desired about age, class, degree sought, etc., inquiry is made as to where, when, and from what books high-school physics was studied, and also as to the background in mathematics and science. There is a place for listing other work taken simultaneously with college physics. In the upper right-hand corner of the card, there is reserved for the instructor's entry the section number, the instructor's initials, and the grade for the quarter. On the reverse side the efficiency test grades are to be recorded together with the advice given and the action taken by the student.

¹ *School Science and Mathematics*, XX (March, 1920), 227.

From one quarter to another a student may have to shift sections because of conflicts of hours with other courses; this record card then passes through the hands of his successive instructors, who are thus acquainted with his previous work. These cards form the class list of each section and at the end of the course go into a permanent file. Thus we acquire from year to year much statistical information of value in answering requests for recommendations and in scrutinizing collectively the work of students who come from different local high schools.

Name _____		Year _____	{ _____ { _____ { _____ { _____	{ _____ { _____ { _____ { _____	{ _____ { _____ { _____ { _____
_____	_____	Courses _____			
Surname	First Name	Initial			
Instructor _____					
Grade _____					
Age _____		Majors' credit in University _____			
Classification _____ (Ph.B., S.B., M.D., etc.)					
High school physics _____		Name of School _____		_____ years ago _____ textbook	
High school mathematics courses _____					
College science courses _____					
College mathematics courses _____					
Reason for initial registration _____					

Other courses taken this quarter.....			{ 1st qr _____ { 2d qr _____ { 3d qr _____ { 4th qr _____		
Hours of outside work _____					

These records are, of course, accessible to any of the teachers interested in them, and they do much toward furthering co-operation between the University and the secondary schools in this field.

We come now to the matter of the efficiency test. The general type of test given may be found in *An Introduction to Laboratory Physics* by Lucius Tuthill. A few questions of the type employed are presented on page 385 with the record of achievement of a recent section.

It will be seen that the questions have no bearing on the general intelligence of the individual but deal merely with technical matters

of mathematical preparation and high-school training in physics. We propose to include some questions from general intelligence tests in the future to see if more satisfactory results are obtained. A very important point made by Tuthill is that questions should be of such a type that the student does not have to "stop and think" about them. If he cannot answer immediately, he is told to pass on to the next question.

Question	Percentage of Students Answering Correctly
1. What per cent is .008?	90
2. Simplify $\frac{\frac{3a}{b}}{\frac{a}{3b}}$	85
3. Solve for x : $\frac{3}{x} = \frac{8}{18}$	95
4. Solve for x : $3:x::8:6$	85
5. $a^5 \times a^2 = ?$ $a^5 \div a^2 = ?$ $a^5 \times a^2 = ?$ $(a^2)^3 = ?$ $(a^3)^2 = ?$	60
6. If $\frac{c}{e}$ = constant, what change must take place in c if e is doubled?	75
7. Given $y = ax + c$; a and c are constants. When $x = 0$, $y = ?$..	50
8. Which is larger: $\frac{5}{12}$ or $\frac{5}{13}$?	85
9. Divide 0.012 by 0.0024	85
10. x feet \div y secs. = ?	10
11. Define acceleration	30
12. Work required to push 500 lbs. up inclined plane rising 1 ft. in every 10 ft. of slope, if plane is 15 ft. long?	40
13. What is meant by potential energy?	35
14. If the 500 lb. weight is lifted straight up to top of plane, work = ?	80
15. State Ohm's Law and give meaning of each term	30

The first meeting of each course consists primarily in filling in the information card and writing the efficiency test. After the second meeting, which adjourns early for the purpose, the instructor calls up for conference all who fall below some predetermined grade or, perhaps better, the lowest third of the section. These he interviews individually and makes his first personal contacts in a spirit of helpful and kindly inquiry. He gives advice where his judgment dictates, but forces no action, leaving the matter entirely to the discretion of the student. Frequently the other

information on the card enables one to give precisely that advice with which the student enthusiastically concurs. If a change of class or course seems best, the dean is advised of the fact by note from the instructor. The student is not required to follow the instructor's suggestion if he does not readily agree.

Some statistics of last year's classes may be of interest. Of 171 registrants, 40 made a score of less than 50 per cent on the efficiency test and were interviewed; 22 agreed that they were not prepared for college physics and dropped out at once with a loss of but one hour's time in entering another class. Many of these requested advice as to what they should take and acted directly in accordance with it, some going back into preparatory physics, others taking elementary courses in mathematics, some going into chemistry. The remaining 18 students were all warned as to the importance of carefully scrutinizing their reactions in the first few weeks and were advised to make special effort. Of these 18, 9 successfully completed the course; 9 dropped the course within four weeks because of obvious failure to continue with a passing grade. In the last four weeks several other students dropped the course, but these cases were almost without exception due to conditions arising late in the quarter, mostly because of illness, conditions which interfered with the rest of their work as well as with physics.

Thus it is brought about that before two days have gone by in a new quarter, the lowest third, as determined in this fashion, has been brought under scrutiny and a sympathetic acquaintance established. These pupils feel an immediate sense of responsibility and, if other difficulties develop, go at once to the instructor. Frequently, his advice, not taken the first time, is eagerly sought later, and the spirit of co-operation grows. Cases that appear unusually difficult may be referred to the departmental adviser or the dean. In short, the student who needs help is not lost sight of.

Of course, the real test of any scheme is how it appears to work out. To answer this question the records of previous years have been studied and the following comparisons noted. During the years 1910-14 the first course in general physics comprised eight sections with 133 students, 17 per cent of whom were conditioned

or failed. During the years 1914-18, representing considerable growth but as yet no very systematic method of administration, there were seventeen sections with 344 students, 14 per cent of whom were conditioned or failed. During the years 1918-20, representing again a doubling of numbers, there were seventeen sections with 333 students, 6 per cent of whom were conditioned or failed.

The system described was started about the beginning of this last period. The 6 per cent includes the unusual number of poor students who were enrolled during the period of disturbed conditions of work that followed the war. Had this condition not existed, there would have been an even lower percentage of failures.

Our own inquiry, "Is there really any benefit derived from this systematic method of keeping in touch with and of testing the student other than that of having him pigeonholed for future reference?" appears to be answered in the affirmative, and the system will be continued for the present.

Meanwhile, another question comes up. We seem to be forecasting failures to some extent. Are we by this means forecasting the other grades of work to any appreciable degree? The present reply to this is that there does not seem to be a great enough degree of correlation to warrant discussion. It is probable that tests of the type outlined are not as effective in forecasting grades as in indicating probable failures. Further study on this point is in progress and will be reported in this journal later.

Educational Writings

REVIEWS AND BOOK NOTES

The psychology of thinking.—One of the chief slogans employed by progressive educators and teachers during the past decade has been "teach the children to think." Lesson-getting and lesson-hearing have been decried in vigorous terms, while the value of training in ability to think has been correspondingly emphasized. While the need has been realized for the shift from mere memorization of subject-matter to critical evaluation and accurate judging of the significance of facts, there has been lacking a practical guide for putting the psychology of thinking into effect in the ordinary school. That is to say, teachers themselves need a practical psychological basis in thinking out the various ways in which they may present the different fields of subject-matter in the school curriculum in order to make thinking the dominant procedure at all times. This need on the part of teachers is so important that the book by Mr. Boraas,¹ comes as a timely contribution to the field of educational psychology. The purpose of the author is set forth in the last paragraph of the first chapter in which he discusses thinking as the greatest thing in teaching. The paragraph reads as follows:

The following chapters will deal with practical ways and means for promoting what someone has called the "most important strictly private business"; but which may with equal truth also be called the most important business of the public in a democracy—thinking. However, before going to our next topic I have one suggestion to make. An interesting writer says that, in reading, a person should give one hour of thought to every hour of reading, claiming that this would "certainly be more beneficial than two hours devoted entirely to reading." The exercises which follow are offered as suggestions for beginning the hour of thinking [p. 17].

The exercises referred to in this quotation are typical of the lists given at the close of each chapter, and they constitute an important feature of the book. Chapter ii to xiv inclusive take up different types of thinking and different means of developing effective habits of thinking. The chapters on co-operative thinking and developing skill in solving long problems are perhaps the most illuminating of all of the discussions. These chapters represent aspects of

¹ JULIUS BORAAS, *Teaching to Think*. New York: Macmillan Co., 1922. Pp. xi+289.

thinking that have been largely neglected, hence the value of the practical discussions presented by Mr. Boraas. The other chapters on solving everyday problems, critical thinking, etc., are also of great practical value to teachers. The final chapter is especially valuable in helping teachers form effective habits of thinking about their work.

Mr. Boraas has succeeded in writing a very practical psychology of teaching to think. The freedom from technical terms makes the book readable for the ordinary teacher, and the concrete illustrations of the applications of the psychological principles underlying each type of thinking discussed will serve as a guide to teachers in putting these principles into practice. The numerous exercises render the work a valuable text for classes in educational psychology.

H. W. NUTT

The use of trade tests.—The great mass of material which has been accumulated through the efforts of psychologists, psychiatrists, physiologists, and other workers who are concerned with the characteristics of the mental behavior of the individual presents an array of conflicting and confusing evidence. Out of this diverse accumulation one fact stands clearly and unmistakably, namely, that an explanation of human conduct is not to be found, exclusively, in the field of any group of specialists.

What science has been able to do with some of the relatively simple and objective facts of nature we are sometimes asked to believe has been done with the highly complicated and more or less subjective organization of the human mind. We are asked to believe that qualities of the mind can be assayed and measured with minute exactness.

In a study¹ on trade tests the soundness of the data presented and of the conclusions drawn from them depends upon the validity of the assumption that all of the factors which might influence the result of the test, or which might influence the element being tested, had been carefully controlled. Perhaps we should assume that these factors were controlled; however, one cannot be expected to do so where the field is comparatively new, making this particular feature of a study one of the most important and interesting considerations.

As a matter of fact, Mr. Toops neglects to mention, even in a minor or casual way, how the numerous factors that might enter into and influence the reactions obtained from the particular element or elements being tested were controlled. It would have added considerable interest to the study if some recognition had been given to the premise upon which scientific procedure is based, that is, to the standardization and control of all variables which might influence the element being measured or the reactions which were taken as measures of the element. Up to the present there has been no widely heralded

¹ HERBERT ANDERSON TOOPS, *Trade Tests in Education*, Teachers College Contributions to Education, No. 115. New York: Teachers College, Columbia University, 1921. Pp. vi+118.

presentation of just how that is done or how it may be done in connection with the testing movement. The value of the study under consideration would have been enhanced to an appreciable degree had such an exposition been made. If the premise upon which data have been collected is unsound, involved mathematical treatment of it is of no special value.

Mr. Toops and other exponents of trade and intelligence testing make considerable capital of the possibilities of using these tests as a means of fitting each individual into the niche which he can best occupy as a member of society; such contentions ignore almost entirely the overwhelming percentage of the work of the world which the normal person can do acceptably. Fitting people who possess the requisite mental and physical ability into jobs that are to be done is not a highly complicated or mysterious process, as a manager of an industrial or commercial enterprise will testify. Give the modern going concern six weeks, allow it to retain its administrative organization and personnel, then discharge practically the whole of its working force, and it will recruit an entirely new force of requisite ability to place it again on its old basis of efficiency. This, of course, by no means indicates that its employment troubles are over or that the new workers will be satisfied merely because they have the intelligence and physical ability to do the work assigned to them. There are other elements in the human make-up that may have a much greater effect upon industrial stability and contentment. The apparently short-lived personnel movement in industry has done nothing if it has not brought together studies which substantiate this.

The present tendencies in industry and commerce look toward further simplification of the job. The shifting character of modern life is forcing that. Jobs are made in order that normal or mediocre ability can be utilized. "The right man in the right place," so far as it applies to intelligence and ability demanded of more than three-fourths of the workers in modern life, is an empty catch phrase. If the usefulness of trade tests is to be limited to that particular function, they are going to touch the lives of an insignificant percentage of industrial workers; and this is that same comparatively insignificant percentage that industrial and vocational education programs have been fiddling with for the past twenty-five years.

HARRY T. FULTZ

The Dalton plan of education.—The modern school must continually develop in order to keep pace with the growing needs of mankind. Various plans are brought forward from time to time, suggesting ways by which the school can better adapt itself to the task of fitting boys and girls to take their places in the world of today. Based on the conception that the growth of character is the foundation of education, the Dalton Laboratory Plan promotes a natural method of study, thereby tending to develop intelligent habits. After a thorough investigation of the plan in operation, Miss Evelyn Dewey has

written an exposition¹ of it, hoping by this means to answer the questions which arise regarding any such innovation.

The Dalton Laboratory Plan was developed in an attempt to get a school organization that would meet the needs of modern education under public school conditions. Miss Helen Parkhurst, originator of the plan, conceives the public schools as sociological laboratories where community life and community situations prevail. The children are the experimenters. The instructors are observers who stand ready to serve the community as their special talents are needed. As observers, they study the children to find out what environment will best meet the immediate educational needs. As specialists, their function is to give technique, to point the way to the acquisition of information, and to maintain intellectual and technical standards [pp. 1-2].

In chapter i, Miss Dewey gives an adequate description of the plan, showing how it abolishes classroom recitations and lectures, the routine of daily assignments, and the "lock-step" rule of teacher-pupil relations, and substitutes subject laboratories, contract work, and a system under which pupils experiment while teachers observe. The plan would change the school into a social laboratory where the conditions are similar to those found in real community life.

An essential feature of the plan is the contract or assignment which outlines a given amount of work for the pupils to perform each month with subdivisions for each week. The pupil is allowed to work at the different tasks at his own pleasure, the amount of work accomplished weekly being shown by means of graphs, the pupil plotting his own record. This method gives the bright pupil an opportunity to work up to his fullest capacity and permits the dull pupil to advance at a rate consistent with his comprehension of the subject. The teacher can see the rate of advancement of each pupil and can aid those in difficulty. It is hoped that this method will take care of individual differences and aptitudes.

The degree of success which the Dalton Plan has had is shown through the presentation of data from pupils and teachers in the Dalton High School, Dalton, Massachusetts, the Streatham County School, London, England, and the Children's University School, New York City, the three places where it has been in operation. The opinions of teachers and pupils range from hearty support to unqualified disapproval. In regard to the effect of the plan on individual subjects of instruction, it was found that history and geography teachers report the fewest difficulties in adopting the plan. Mathematics and science teachers also had to make only a few changes and on the whole found the plan advantageous. The language teachers were least satisfied because of the inability of pupils to detect their own mistakes.

Although the plan is still in the experimental stage, the book gives a fair and intelligent presentation of the results thus far. Miss Dewey feels that the

¹ EVELYN DEWEY, *The Dalton Laboratory Plan*. New York: E. P. Dutton & Co., 1922. Pp. ix+173.

Dalton Laboratory Plan may help to solve some of the problems of modern education by adapting the work of the school to the interests of pupils and helping to care for individual differences.

W. D. BOWMAN

American education.—Criticism of our educational system is no new thing. We are constantly being confronted by it from some new angle. Some of it is valid. Much of it is not. We react to it in various ways, and in our reaction to the criticism we determine its value. Education is many-sided, and in order to keep it so we should welcome criticism from many diverse sources. Yet we are prone to object to criticism from those in authority, even when most tactfully and helpfully submitted, on the ground of bias and lack of a sufficiently intimate knowledge of the individual problem of school procedure criticized.

One can conceive, then, of a form of criticism coming from a source much less well informed, made up principally of opinions, but opinions of men well acquainted with educational problems in general, which would be very helpful and extremely valuable as representative of an outside point of view, impersonal and impartial, giving us an opportunity to see ourselves as others see us.

Mr. Osburn¹ has gathered together criticisms from a great number of English, French, and German educators, covering a period of time from 1853 to the present. These he has arranged and grouped under the headings: "American Educational Philosophy," "The American School System," "The Teacher," "Elementary Education and the Kindergarten," "Secondary Education," "Universities and Colleges," and "Education as a Means of Control." In each case the author gives a sufficient background so that the reader may understand the point of view and then gives both favorable and unfavorable criticism of the topic. While admitting that some of the criticism is ill founded because of lack of understanding of our national and educational ideals on the part of the persons making it, he holds that "the central tendencies of two hundred such observers are likely to be near the truth."

The author concludes that "the criticisms which have been quoted have emphasized two fundamental principles upon which the American educational system rests. The first of these is the belief in the equality of all men"; the second, "the belief in the indefinite perfectibility of the individual." The study is valuable because of the broad point of view, a quality not always inherent in the work of our own American writers.

ERNST E. WELLEMAYER

City school administration.—The rapidly expanding scope of school activities as well as the rapidly increasing enrolment in public schools of both elementary and secondary grades require that the city school superintendent be

¹ W. J. OSBURN, *Foreign Criticism of American Education*. Bureau of Education Bulletin No. 8, 1921. Washington: Department of the Interior. Pp. 158.

prepared to assume a constantly enlarging responsibility. The administrative officer of the school system has frequently found his position difficult because of the lack of any authoritative definition of relationship between his position and the duties which have gradually become identified with it.

A recent study¹ seeks to determine the actual relationship of the superintendent to the board of education and the activities it controls as this relationship is defined by law and as it is understood by both school men and members of boards of education.

Following an introductory review of the historical development of the office of city superintendent of schools, the author presents a summary of the results of his analysis of the laws of the forty-eight states as these relate to the problem of his study. The superintendent's relation to the board of education, the public, other municipal authorities, other school officers, local, county, and state, is considered, and the specific powers conferred upon him are classified. Similarly, the legal status of the city school superintendent in thirty-four representative American cities is studied. Here the city charter and special legislative acts relating to the administration of schools in individual cities or in cities of a given class are the sources of material. The author finds that the authority to fix the responsibility for the exercise of various functions of city school administration is vested in the state legislatures and that this authority has been variously delegated to the electorate, boards of education, the superintendent, and city, county, and state officials. As regards special city charters, it is found that "practically no specific provisions for school administration are made by special charters that are not also included somewhere in general legislation for city school systems" (p. 98). The tabular summaries of the author's analyses of these documents are unfortunately presented on separate sheets not incorporated in the book.

An interesting chapter records the returns from a questionnaire sent to superintendents, university teachers of school administration, members of state departments of education, and members of local boards who were asked to give their judgment concerning the powers the superintendent and the school board should properly possess. Summarizing the replies of the different groups of individuals concerning the proper distribution of authority with respect to thirty-five specified functions of school administration, the author says:

The modal judgment gives a fairly complete picture of the judgment of the two groups and the responsibility that they would vest in the superintendent and board of education, respectively. The majority of the professional group would make the superintendent responsible for taking the initial step and also for executive action with the board approving either before or after action in each of the thirty-five functions with the exception of appointment of secretary to the board of education and the various questions pertaining to buildings and grounds. The appointment of the secretary they would leave solely with the board of education, and for the various

¹ JOHN CAYCE MORRISON, *The Legal Status of the City School Superintendent*. Baltimore: Warwick & York, 1922. Pp. 162.

questions pertaining to buildings and grounds they would make the superintendent responsible for the initial action and leave the executive action in each of the five functions to the board of education.

The lay group would make the superintendent responsible for supervision of instruction and would make the board of education responsible for the appointment transfer, and dismissal of all workers connected solely with the material side of the school plant, for all functions pertaining to buildings and grounds, and for the taking of the census. For all other functions they would place the power of official initiative in the office of superintendent, but differ as to the approval of administrative acts [p. 119].

A final chapter presents an outline of the author's conception of the relationship that should obtain between the superintendent and board and between both these and other school officers. The specific powers and duties belonging to each are given in detail. The outline, which does not include many new suggestions as to administrative practice, probably reflects the best thought and practice as these are now generally understood.

The study has evidently been made with care and constitutes a valuable contribution to the literature of school administration.

N. B. HENRY

Freshman instruction in grammar, composition, and literature.—There are two schools of thought concerning the proper relationship between composition and literature in a course of study. Undoubtedly the rigid separation of the two, long the practice of most college courses, is gaining favor in the secondary schools. To many, such rigid separation seems a misfortune. Under skilful teaching, theoretically at least, pupils should constantly gain from the study of good literature, the models having a more or less direct effect upon their own writing and speaking. At any rate, this is the teaching theory which underlies a new book¹ of college Freshman rhetoric. The author says "almost no book mingles in anything like the right proportions the study of typical mistakes in grammar, the elements of rhetoric and English style, and the study of our great classics" (p. iv).

In twenty-one chapters, ranging from "First Steps in Composition" to "How to Appreciate Poetry," Professor White presents what has evidently been his own course of Freshman English. The book does not seem too difficult to be used as a text in the senior high school. One can readily think of high-school classes which might much more profitably spend a semester on the material of this book than upon the "Conciliation Speech" or similarly difficult and remote literature. The present writer knows no book that would be more suitable as a text for a group of high-school Seniors who will finish their education with the twelfth grade.

R. L. LYMAN

¹ HENRY ADELBERT WHITE, *English Study and English Writing*. Boston: D. C. Heath & Co., 1922. Pp. 336.

A study of interest.—Education to be highly successful must be psychologically adapted to the interests of the pupils. The importance of interest as a factor in education has been studied from various points of view. The author of a recent publication¹ attempts to bring together the results of these investigations, hoping thereby both to stimulate further educational research in the field of interest and to standardize intelligent practice by the contribution of guiding principles. In the language of the author:

The proposed study seeks first by selection from varied sources to identify and correlate certain psycho-physical and social elements of interest at successive stages of development. By extending the conception of interest to include the entire range of popular and scientific denotation, it will seek to indicate the nature, development, and effect of the significant forms of its expression [pp. 3-4].

The study is based on a threefold division of the subject-matter, the author assuming that this distinction is supported by the so-called "three levels" of neural development.

Still further it is convenient to group the data under the physiological, the biological, and sociological interpretations so as to furnish loosely corresponding treatments of interest as a state of consciousness, of its development in universal forms of expression, and of the modifications in its expression hitherto regarded as instinctive which result from social contact [p. 11].

An interesting diagram, illustrating the correspondence between types of attention and interest and the development of interest as expressed in typical behavior, comprises an essential feature of the chapter dealing with interest from a physiological point of view. Then the author traces the development of instinctive interest, following this with a discussion of the social modification of interest.

In the last chapter, Mr. Waples gives a very intelligent presentation of the educational implications regarding interest. He contends that the genetic development of interest provides a basis for standard principles of educational method. He feels that methods of motivating the learning process may be used to advantage if the pupils are first grouped at approximately the same level of intellectual growth.

The material for this study has been drawn from noted experiments and investigations in this field. The author's interpretation follows appropriately as a result of a review of this work.

SHIRLEY HAMRIN

A high-school text in woodwork.—An examination of the usual textbook which deals with a manual arts subject will reveal an undue emphasis on the finished product, the object to be made. In a way, any textbook reflects the

¹ DOUGLAS WAPLES, *An Approach to the Synthetic Study of Interest in Education*. Reprinted from the *Journal of Educational Psychology*. Baltimore: Warwick & York, 1921. Pp. 61.

type of teaching being done in the subject. Manual arts teaching is all too prone to concern itself with getting something made, regardless of whether it develops on the part of the pupil the power to think independently and to work on his own initiative. This situation has been aggravated by the annual exhibits in schools where the entire year's work is geared up to make a showing at the close of school.

A recent textbook¹ on wood-turning ignores some of the essential educational values in much the same way as the great number of older texts ignore them. Too much space is taken for the mere dispensing of information and for minute descriptions of tools, operations, materials, and projects. Textbooks need to do more than dispense information. They need to be more than the meager standard practice instruction cards of industry, which are designed solely for the purpose of obtaining high production from a grade of labor considerably below the level of the skilled. One does not gain much power in working on a job which has already been thought out and planned by another. Texts and teaching need to stimulate the instinctive tendency of the individual to find out things for himself. That is not done where all of the details are given instead of leading the pupil to discover for himself. The author of the volume under consideration apparently had no thought in mind of making such an appeal or of providing such a stimulus.

There are two pages of discussion on the theoretical principles of design, in which such abstractions as simplicity, harmony, and proportion are discussed. Not more than a paragraph is devoted to each of these, and no attempt is made to connect these abstract elements with the many excellently designed projects that follow. Such art values as the book possesses lie in the carefully designed articles rather than any conscious attempt which the author makes to explain their educational significance.

A large variety of projects are given in their final form. Doubtless these have been developed in actual class work, and therein lies their chief educational value; however, there is no attempt made to present this classroom experience in such a way as to show the successive steps in working out the designs. Pupils and teachers alike are interested in the final form that a project may take, but they are more intensely interested in the manner in which that result was achieved. Mr. Klenke's text does not answer that question.

HARRY T. FULTZ

Individual grammar drill in the high school.—It is a lamentable fact that many pupils enter the high school exceedingly deficient in the use of English. Their speech and writing are filled with gross errors. For these deficiently unquestionably a thorough drill course in the elements of grammar ought to constitute a part of their first year's work in English. At the same time a

¹ WILLIAM W. KLENKE, *Art and Education in Wood-turning*. Peoria, Illinois: Manual Arts Press, 1921. Pp. 110. \$1.40.

very respectable number of their classmates, either through social inheritance or through thorough training, write and speak English correctly enough for their age. Refreshing indeed is a recognition in any textbook of the significant fact of individual differences and of the need for differentiated instruction. Two collaborators have prepared a series¹ of fifty grammar drills based on minimum essentials of functional grammar. The drills are suitable for individual project work; exercises are frequently taken from the actual themes of high-school students; emphasis is always laid upon the correct form; moreover, the exercises, as the title indicates, are confined to the most important features of sentence structure together with the correct use of words in sentence-building.

R. L. LYMAN

Bible readings.—The reading of selected passages from the Bible in opening exercises, devoid of all denominational and sectarian bias, is returning to favor in many sections of the country. Recognizing the Bible as the repository of the fundamental ethics of our civilization and appreciating at the same time the unsurpassed literature which is found therein, school men are more and more coming to believe that an acquaintance with the Scriptures is a valuable asset in the lives of men and women. A book² of devotional exercises for collective worship as it has been edited by Frank M. Rich presents short units of the Bible story requiring from three to five minutes to read. Mr. Rich sets forth the poetic selections as poetry, the narratives as brief stories, and intersperses all with occasional appropriate selections from other literature. This collection of readings furnishes a valuable book for both religious and secular schools as well as for private use.

R. L. LYMAN

The practical application of business arithmetic.—It is very necessary that the student who has entered the business world or who intends to enter it possess a knowledge of and a skill in the fundamental operations of arithmetic and the ability to apply this knowledge and skill in practical business affairs. In order to acquire skill in the fundamental operations and to be able to apply this skill in actual business life, it is necessary that the skill be acquired in working out real problems such as will be encountered in business surroundings.

The aim of the author of a recent text in business arithmetic³ has "been . . . to meet the educational needs of all those who wish to enter the business

¹ CARL HOLLIDAY and SOPHIA CAMENISCH, *English Grammar Drills*. Chicago: Laird & Lee, 1922. Pp. 149.

² FRANK M. RICH, *Morning Readings*. Boston: Richard G. Badger, 1920. Pp. 355. \$2.00.

³ HELEN J. KIGGEN, *Practical Business Arithmetic*. New York: Macmillan Co., 1922. Pp. xi+404.

world and those who have already entered it without sufficient knowledge of the fundamental operations in arithmetic or who lack the power to apply their knowledge to the solution of present day business problems" (p. v).

As to topics treated, the book is not very different from many of our textbooks on business arithmetic. The chief differences between this book and others on the same subject are the method by which the author connects each topic with practical business affairs and the consistency in the practical application of the work. This method of treatment may be illustrated from the chapter on "Units of Measure and Their Application." In this chapter, the methods of measuring dress goods, carpeting, papering, flooring, boards or lumber, time, heat, humidity, water, gas, electricity, wood, and coal are fully explained. In connection with each of the methods, exercises and real problems are suggested whereby practice may be had in measuring. Computation enters into each problem, affording practice in estimating, multiplying, dividing, etc. In every chapter of the book the methods are discussed, and numerous practical problems are suggested for the purpose of providing a practical application of the methods.

The distinctive merit of the book rests on the author's method of furnishing an opportunity for developing skill in the practical application of the fundamental operations. Teachers and students of business methods in secondary schools will find the book suggestive and valuable.

JAMES VAUGHN

School shop equipment.—There is an abundance of literature dealing with shop organization and maintenance. This material, however, is to be found in widely separated sources, principally engineering handbooks and technical magazines. In many cases the treatment is highly specialized and unsuited to the purposes of the shop supervisor or teacher.

Professor Greene in a new book¹ brings together, for the first time, materials selected from technical sources and from his own experience which will be of distinct value to school authorities responsible for the installation of new shop equipment or with the reorganization of old equipment.

As a result of the author's efforts there is presented an ample collection of valuable data and calculations required to instal successfully the various metal and wood-working machines. Practical problems involving the use of such data are brought up, and solutions worked out. The use of complex formulas has been avoided, and those which are given are amplified in such a way as to make them readily usable.

A portion of the book covers material which is given in a fragmentary fashion in texts on wood-working and metal-working. This is particularly

¹L. S. GREENE, *School Shop Installation and Maintenance*. Peoria, Illinois: Manual Arts Press, 1922. Pp. 100. \$1.25.

true of those sections dealing with the fitting of edged tools and saws; however, such inclusions are necessary to a comprehensive treatment of the subject.

A pioneer in the field, this volume should be well received by teachers and supervisors of shop subjects. It is the first publication presenting an organized effort to meet a well-defined need.

HARRY T. FULTZ

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

- BUCHNER, EDWARD F. *The Effect of the Physical Make-up of a Book upon Children's Selection.* Johns Hopkins University Studies in Education, No. 4. Baltimore: Johns Hopkins Press, 1922. Pp. vii+162. \$2.00.
- EIKENBERRY, W. L. *The Teaching of General Science.* Chicago: University of Chicago Press, 1922. Pp. xiii+169. \$2.10.
- KUHLMANN, F. *A Handbook of Mental Tests.* Baltimore: Warwick & York, 1922. Pp. i+208.
- MORRISON, JOHN CAYCE. *The Legal Status of the City School Superintendent.* Baltimore: Warwick & York, 1922. Pp. iii+162.
- STRATTON, GEORGE MALCOLM. *Developing Mental Power.* Boston: Houghton Mifflin Co., 1922. Pp. vii+77. \$0.80.
- THOMAS, FRANK W. *Training for Effective Study.* Boston: Houghton Mifflin Co., 1922. Pp. vii+251. \$1.90.
- VAN DENBURG, JOSEPH K. *The Junior High School Idea.* New York: Henry Holt & Co., 1922. Pp. iii+423. \$1.50.
- WILSON, H. B., and WILSON, G. M. *The Project Method.* Boston: Houghton Mifflin Co., 1921. Pp. 12.

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- BURTON-OPITZ, RUSSELL. *An Elementary Manual of Physiology.* Philadelphia: W. B. Saunders Co., 1922. Pp. xvi+411. \$2.50.
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- GORDY, WILBUR FISKE. *History of the United States.* New York: Charles Scribner's Sons, 1922. Pp. xiv+600. \$1.60.
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- POLLOCK, JAMES B. *Laboratory Directions for Elementary Botany.* Ann Arbor, Michigan: George Wahr, 1922. Pp. iii+102. \$0.75.
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PUBLICATIONS OF THE UNITED STATES BUREAU OF EDUCATION
AND OTHER MATERIAL IN PAMPHLET FORM

Recent issues of the Bureau of Education:

- Bulletin No. 30, 1921—*Salaries of Administrative Officers and their Assistants in School Systems of Cities of 25,000 Inhabitants or More.*
Bulletin No. 32, 1921—*The Reorganization of Mathematics in Secondary Education.*
Bulletin No. 45, 1921—*School Grounds and Play.*
Bulletin No. 52, 1921—*Record of Current Educational Publications.*
Bulletin No. 3, 1922—*Preparation of Teachers of the Social Studies for the Secondary Schools.*

MISCELLANEOUS PUBLICATIONS

- Compton's Pictured Encyclopedia*, Vols. I-VII. Chicago: F. E. Compton & Co., 1922.
EGGLESTON, MARGARET W. *Building for Womanhood*. American Home Series. New York: Abingdon Press, 1921. Pp. 28.
EMERSON, WILLIAM R. P. *Nutrition and Growth in Children*. New York: D. Appleton & Co., 1922. Pp. vii+342.
FASSETT, CHARLES M. *Assets of the Ideal City*. New York: Thomas Y. Crowell Co., 1922. Pp. vii+177. \$1.50.
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JOB, HERBERT KEIGHTLEY. *The Sport of Bird-Study*. New York: Macmillan Co., 1922. Pp. ix+312+iv. \$2.50.
KENNEDY, MINNIE E. *The Home and Moving Pictures*. American Home Series. New York: Abingdon Press, 1921. Pp. 29.
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